

A HOLISTIC INSTRUCTIONAL APPROACH
FOR UNIVERSITY STUDENTS

By

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Abstract of Dissertation Presented to the Graduate School
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At a time when education is facing problems, programs utilizing holistic teaching techniques, as well as those that teach students strategies for facilitating whole brain functioning could benefit educator and student. This study involved evaluation of a program to foster students' abilities to apply right brain/left brain research results practically into their academic pursuits. Lozanov's theory and Milton Erickson's approaches for utilizing unconscious processes were the bases for the program. The primary goal of the program was to improve students' GPAs.

Employed in the study was a control-group pretest-posttest design. Subjects were undergraduate college students, assigned to experimental and control groups. The experimental group was subdivided into an instructor-assisted group and a self-directed group.

Both experimental groups viewed videotapes about right/left brain functioning and relevant academic applications. The instructor-assisted group also participated in interactive discussions about the information and skills presented. Both experimental groups completed pre- and posttests (using the Academic Performance Orientation Questionnaire (APOQ) and a post-workshop evaluation. The control group completed the APOQ pre- and posttreatment. Grade point average (GPA) data for all participants were obtained from student records.

Indicated from analyses of covariance was that the program did not produce statistically significant changes in subjects' GPAs, but did produce significant changes in subjects' orientations to academic tasks as measured by the APOQ. APOQ pre- and post-total, and some subscale scores for the experimental group were significantly different. Also, the self-directed experimental group subjects showed more significant change than the instructor-assisted group.

The program was not recommended for use to produce relatively immediate changes in college students' GPAs. However, the program was recommended as a way to improve their academic orientations, which should have long-term, positive impact on academic performance. Improvements in the program also were suggested.

CHAPTER I

INTRODUCTION

Traditional American education procedures attempt to change the learner to fit instructional procedures instead of vice versa, i.e., adapting procedures to learners to help them learn better and more successfully (Dennison, 1981). American educators tend to ignore the "human machine" and how it works most effectively. Most importantly, they typically ignore the brain's role in learning processes.

In order to understand the brain's role in learning, it is useful to think of a switch on a household appliance, for example, a vacuum cleaner. First, a decision is made to turn it on. Once on, energy in the form of electricity flows from its power source, the power plant, to a motor which is designed, or programmed, to perform a certain function. When the function is no longer needed, the power source is switched off, terminating the message to the machine (Dennison, 1981). The brain functions much like the switch in turning power on and off, and thus controlling its flow.

The human brain should really be called "brains" because there are two unique and specialized hemispheres

controlling the human body and sorting knowledge for future decision-making. A complex system of switches is developed in infancy to synchronize and integrate information so that the "two brains" can work together in harmony and coordination. These "two brains" are really the two brain hemispheres. The left hemisphere and the right hemisphere are interconnected by the corpus callosum, a bundle of nerve fibers. The two hemispheres control distinct human functions, but the hemispheres take over for one another when necessary. In general, the more complex the task, the greater the degree to which both sides of the brain are involved in the operation (Dennison, 1981).

The "two brains" not only have separate responsibilities for switching on and off the physical body, but also have separate functions regarding consciousness and thought processes. The left hemisphere is predominantly involved in analytical thinking, especially that involving language and logic. The right hemisphere, in contrast, is responsible for visual memory, orientation in space, feelings and emotions, artistic ability, body awareness, and recognition. It is "switched on" when information needs to be processed as a whole and simultaneously, rather than in linear fashion (Dennison, 1981).

Given that there are "two brains" with specialized functions, why then is education failing to "turn on" students? There are numerous reasons why people feel hostile, uncomfortable, or "turned off" in classroom situations. For example, feelings of insecurity are frequently brought to the surface by the presence of strangers. Persons such as teachers, leaders, and classmates may be reminiscent of uncomfortable experiences in the past. At the same time, students are generally concerned both about getting good grades and the means by which they can attain them. They also are often anxious about performing well and worried about the work they will be required to do. The prospect of quizzes, tests, and term papers also creates uncertainty, which in turn produces "a sense of threat" (Brownfield, 1973). In other words, students often develop "the failure syndrome," not because they are not capable but because of influences that prevent them from "turning on" their right brains. This study, based on recent research into hemispheric functioning, specifically addresses "turning on" the right brains of college students.

College student service personnel are the people who should help students enter, enjoy, persist, and exit college. As such, a student services worker, to be effective, needs to have knowledge about how people learn,

advanced interpersonal skills, and knowledge regarding human behavior, as well as an ability to teach and train (Delworth & Hanson, 1980).

If one important area of relevance to the student services worker is knowledge regarding how people learn, then "knowing the many ways in which people learn gives student services workers an advantage in planning strategies to help students learn, both in individual contacts and in group programs" (Betz, 1980, p. 182).

The instructional role also requires student service personnel to teach and train colleagues. Therefore, they need a working knowledge of techniques geared towards facilitating performance of both hemispheres of the human brain. These skills could then be taught to colleagues as well as students.

The principles and techniques investigated in this study involved teaching undergraduate students how to enhance their learning processes by reducing anxiety, combining studying with other activities, increasing motivation, using techniques to improve listening, inputting and accessing information, and managing their thought processes. These are skills and knowledge relevant to student services workers.

In recent research on hemispheric functioning (e.g., Springer & Deutsch, 1980; Williams, 1983), it has been

discovered that there are many different aspects of the relationships between the left and right brains. The two foremost are the conscious and unconscious minds. Moreover, in work by practitioners such as Milton H. Erickson and Georgi Lozanov it has been established that significant results can be achieved by learners when certain learning processes are properly evoked within instructional processes (Erickson & Rossi, 1980; Lozanov, 1978). Therefore, in this study the development of certain skills in undergraduate students to enhance learning skills as well as deal with other obstacles to learning was investigated.

Overview

Major problems, such as declining test scores, high dropout rates, and functional illiteracy in public school systems as well as in higher education, have sent educators back to the drawing board. "Because of deficits in our public school system, about one-third of our youth are ill-educated, ill-equipped and ill-employed to make their way in American society" (Naisbitt, 1982, pp. 31-32).

Responses to these educational deficiencies have ranged from returning to the basics (i.e., emphasizing language and mathematics instruction) to innovative approaches that have met with scorn (Hechinger, 1978). Whether these

responses by educators will in turn affect desired changes remains to be seen. Some, such as Goodlad (1979), believe that the "back-to-basics movement" will show some improvement in standardized test scores but will ultimately impoverish the curriculum and "would lead ultimately to educational bankruptcy in our schools, acceleration in alienation and dropout rates, and in grades having even less relevance to life than they do now" (p. 344).

Pollack (1979) has identified some affective factors contributing to education's problems. For example, the National Institute of Mental Health has reported one out of five children is suffering from depression. Additional factors held responsible range from home environment to "genetic loading." Certainly there are many causative factors, yet one of the most important is rarely mentioned. Over and above broken homes and neurotic parents, up to five hours of a typical child's day may be spent in school fearing failure, tests, recitations, teachers' scoldings, threats of punishment, suspension, competition with peers, scorn, guilt, and shame at failing to live up to the expectations of parents and teachers. For these children, school becomes a daily prison of negative emotions which lead to mental depression, to suppression of children's development, and sometimes to suicide.

These feelings and reactions, which are acquired learnings by the child, are reactivated at the college level by similar circumstances and stimuli (Buck, 1988). Just as the "ABCs" form the foundation for a lifetime of reading, writing, and enumerating, those emotions acquired in childhood serve as an affective base re-elicited by the college environment. Unless college students are able to cope adequately with these feelings, poor academic performance is unavoidable. Therefore, given that the current educational system yields enough poorly trained students to cause educators to question their methods, it is appropriate to explore a variety of potentially more effective approaches to assist college students in coping with and understanding the learning process.

Theoretical Framework

The theoretical framework underlying this study is based primarily on the work of Lozanov (1978) and Erickson (1981). Both were psychiatrists trained in hypnosis and psychotherapy who developed ideas and techniques maximizing the effectiveness of learning as it pertains to facilitating the conscious and unconscious (i.e., right and left brain) functioning of the individual personality. Lozanov (1978) used the principles he discovered and developed from his psychotherapeutic practices and implemented them into the educational arena. Erickson

(1980) also developed an elaborate and complex approach specifically designed to facilitate and reintegrate unconscious potentials.

Although Erickson was "atheoretical," implicit in his work was a neuropsychological model utilizing the differences between right and left hemispheric functioning (Erickson, Rossi & Rossi, 1976). Erickson's model utilized (a) the psychodynamic model of the conscious-unconscious system (not to be confused with the Freudian model); (b) the learning theory model of behavioral psychology; and (c) a linguistic model utilizing multiple levels of communication (Erickson, Rossi & Rossi, 1976).

Erickson, Rossi and Rossi (1976) conceptualized the differences in hemispheric functioning as follows:

<u>Left Hemisphere (Awake)</u>	<u>Right Hemisphere (Trance)</u>
Linguistic	Pantomime, Musical
Logical-Grammatical	Visuospatial
Rational	Intuitive
Abstract	Literal-concrete
Directed	Perceptual-synthetic
Focal	Spontaneous
Effort	Comfort

Many of Erickson's techniques were directed towards "depotentiating" left hemispheric functioning (Erickson,

Rossi & Rossi, 1976). By "jamming" the linguistic and logical-grammatical organization of consciousness, Erickson was able to bypass the "learned limitations" that hindered problem-solving abilities. Learned limitations, according to Erickson and Rossi (1980), are the mental sets, frames of reference, and belief systems that prevent exploration and utilization of abilities to their best advantage.

The "jamming" of the logical-grammatical and linguistic organization of consciousness has been conceptualized by Erickson into a five-stage paradigm (Erickson & Rossi, 1980). Through various techniques, Erickson facilitated persons through the five stages to create a special state of awareness and readiness. In this special state, neuropsychological phenomena are activated, enabling people to reassociate and reorganize inner psychological complexities (Erickson & Ross, 1980). The five-stage paradigm is outlined below:

Stage I--Fixation of Attention

Using the patient's beliefs and behavior to focus attention on inner realities.

Stage II--Breaking Habitual Beliefs

Using distraction, shock, doubt, surprise, dissociation or any process to interrupt habitual frameworks.

Stage III--Unconscious Search

Using implications, questions, puns and other forms of indirect suggestion.

Stage IV--Unconscious Process

Activating personal associations and mental mechanisms.

Stage V--Unconscious Response

Achieving expression of behavioral potentials that are experienced as occurring spontaneously.

The first stage, fixation of attention, can be fulfilled through the use of stories, pantomime, stimulating the imagination, visualization, relaxation, and all forms of inner sensory, perceptual or emotional experience. Anything that "fascinates," "holds," or "absorbs" a person's attention can access the unconscious as well as the conscious mind (Erickson & Ross, 1980).

In the second stage, depotentiating habitual frameworks, consciousness is bypassed or distracted via confusion, puns, or two-level communications. During this momentary suspension of usual mind sets, unconscious latent patterns of associations and/or sensory-perceptual experiences assert themselves. This is because the person's generalized reality orientation has been shaken. Other means of depotentiating consciousness include using

anything that shocks or surprises, reframes, displaces doubt and resistance, non sequiturs, and overloading consciousness (Erickson, Rossi & Rossi, 1976).

By fixating attention and depotentiating habitual frames of reference, an unconscious search process (i.e., Stages III and IV) is initiated. Therein, the unconscious searches through its vast reservoir of stored material seeking a new experience or solution. For example, in a difficult situation, a person can make a joke or use a pun to interrupt and reorganize the situation, thus giving a different point of view. Or, the person may use allusions or implication to establish new ways of understanding the same situation. Metaphors and analogies also are means of arresting attention momentarily to develop new associations. These types of mental activity facilitate the onset of Stage V.

An "unconscious response" (Stage V) is the natural outcome of the unconscious search and process initiated by the person. The "new" behavioral response enables the person to "break out" of old frames of references, and to reorganize and reassociate psychic life.

The mental mechanisms Erickson manipulated for therapeutic change hold implications for education, and were taught to students in a program developed by this researcher called Releasing Mental Potential (RMP), in an

effort to enable them to use their own associative processes and internal abilities for academic purposes. In their book, Hypnotic Realities, Erickson and Rossi (1976) wrote:

We believe that consciousness, programmed by typical attitudes and beliefs of modern rationalistic man, is grievously limited. It has been estimated that, at best, most people do not utilize more than 10 percent of their mental capacity. Most of us simply do not know how to utilize our individual capacities. Our educational system has taught us how to measure up to external criteria of learning only. We learn our ABCs, how to read and write and similar skills. The adequacy of our learning is measured by our scores on standardized achievement tests rather than the degree to which we utilize our own unique neural circuits for our individual goals. Our educational system as yet has little or no means of training and measuring the individual's ability to utilize his own unique behavioral matrix and associative processes even though this internal ability is of the essence in creativity and personality development. (p. 18)

Lozanov's principles were developed in the classroom and are outgrowths of research into the effects of suggestion on the unconscious and learning. By manipulating the unconscious, Lozanov (1978) used emotional and peripheral subsensory mechanisms to produce significant improvement in memory capacities and retention (Lozanov, 1978).

At its present stage of development, suggestology makes use of and elaborates mainly on the emotional and peripheral subsensory mechanisms which are also elements of the factors of suggestion. Subsensory (or subliminal) reactions, if provoked by a specific system, can affect the ability to memorize despite the fact that the subjects do not realize their existence. It has been shown in a number of experiments that

subsensory reactions can affect man's intellectual activity, his mood and perceptions. (Lozanov, 1978, p. 4)

Suggestology started purely as a psychological experiment intended to increase memory capacities in the educational process. It gradually developed into a study of suggestion itself to determine the basic components, specific features, and laws governing the process. The study of suggestology made possible a deeper understanding of the unconscious activity involved in the realization of suggestions.

In suggestopedia, the experimental method of suggestology, new laws and patterns of human memory have been revealed (Lozanov, 1978), and many have found applications in practice. Further, on the basis of research into suggestive supermemory, many new methods of teaching have been, and are still being, elaborated (Lozanov, 1978).

In suggestology, the abilities of the unconscious are realized by the simultaneous observance of three groups of rules (Lozanov, 1978): (a) joy, absence of tension, and concentrative psychorelaxation; (b) unity of the conscious, the unconscious, and their integral activity; and (c) the suggestive link on the level of the reserve capacities.

The Releasing Mental Potential Program was a unique attempt to teach undergraduate students how to observe

these three groups of rules suggested by Lozanov. At the same time, it taught them how to utilize the Ericksonian techniques. In other words, the program provided practical applications for use by them to enhance academic performance.

Passiveness, as used by Lozanov (1978), does not mean submission, lack of will power, or the absence of a critical attitude. Instead, it presupposes calmness, steadiness, self-confidence, and trust. It does, however, mean an absence of parasitic psychological and physiological activity.

Lozanov's (1978) principle of the unity of the conscious, the unconscious, and integral brain activity implies the purposeful and integrated participation of the two brains as well as the cortex and subcortex. It requires that teaching and learning be organized in ways that allow for utilization of conscious reactions and functions as well as unconscious functions. The suppression of the unconscious functions in the learning process, according to Lozanov (1978), is not in compliance with the natural indissoluble dialectical bond between the conscious and unconscious processes. Lozanov (1978) believed that the observance of this principle brings learning processes closer to the natural psychological and

physiological make-up of the person, i.e., raises consciousness to a higher level.

Other concepts developed by Lozanov (which will be described in greater detail in Chapter II) include anti-suggestive barriers and desuggestive-suggestive rituals. Additionally, Lozanov (1978) identified the following variables as crucial to the suggestive process: Authority (Prestige); Infantilization, Double-planeness, Intonation, Rhythm, and Concert Pseudopassiveness (concert state). Also in Chapter II, research on hemispheric functioning, as well as cortical and subcortical activity, will be discussed as they support the works of Erickson and Lozanov.

Statement of the Problem

Given that there are students who meet the criteria for admission into the university yet fail to achieve academically, student services workers must develop programs that address the deficiencies. These students may have academic problems for a variety of reasons, ranging from poor self-concepts to anxiety and motivation problems. It may be that a program utilizing recent research on hemispheric functioning, which teaches students how to use their emotional, mental, and physiological processes in the learning process would help all students.

However, the effectiveness of such a program was unknown. Similarly, it was not known whether there would be differences in the effectiveness of this procedure as it pertained to differences among students who participated in an instructor-assisted program as opposed to a self-directed program.

Need for the Study

The present day rapid development of science and technology, as well as the continuous growth of cultural, economic and political relations between nations, have confronted humanity with exceptional difficulties in the assimilation of scientific and technological achievements by either the traditional or modern methods of teaching. A new approach to the process of teaching and learning is, therefore, required if the world is to meet the needs of today and tomorrow. (Lozanov, 1978, p. 6)

If student services personnel are to develop methodologies to assist students who are unable to cope academically, they will need to utilize present day knowledge of hemispheric functioning. Therefore, continued research into practical applications is necessary to bring about integrative thinking.

The need for holistic education is supported by Harmon (1980), Miller (1981) and Pribram (1986). Harmon (1980, p. 13) stated that, "This dual or holistic approach allows instructional technologists considerably greater scope and

rigor in developing instructional and motivational solutions to human performance problems." Further,

Integrative thinking is, and perhaps always has been, an endangered species, although it may flourish in some locations. In my experience, the matter has ceased to be a strictly "educational" issue, since the necessary educational tools are readily available. Rather, the fate of programs that might facilitate integrative thinking depends on departmental and institutional policies. (Miller, 1981, p. 8)

This study holds implications for theory, research, training and practice in education.

Regarding educational theory, the purpose of this study was to investigate the notion that holistic learning processes can be taught to students, thus enabling them to be more effective learners. Here, "holistic learning processes" implies that students can learn anything better when their physiological, emotional, and intellectual functions are working in a concerted fashion.

In as much as educational systems favor educating the logical, rational, and digital left hemisphere of the brain, this study also holds implications for educational theory because it tested the notion that students can be taught to facilitate their own integrative thinking even if the teacher cannot. In other words, the possibilities of using neuroscientific research which have uncovered many of the powerful mental mechanisms involved in learning need to be further integrated into educational theory (Lyddon,

1989; Williams, 1983) and/or made available to students through programs such as the one used in this research.

According to Harmon (1980), academic psychologists already have enough cognitive research to begin employing cognitive approaches that are holistic in nature into educational practices. With this increased awareness of theory and function as it pertains to the functioning of the right brain and left brain, this study attempted to demonstrate the effectiveness of such an approach.

While this study holds implications for both theory and research, at the same time it holds implications for training. If students can be taught how to use themselves holistically, then teachers can also benefit from training that will equip them with the knowledge and techniques to facilitate such processes. Additionally, teachers need to be trained in understanding the influences they exert when it comes to students and their abilities to learn.

This study especially holds implications for educational practices. Given the current state of educational affairs, individuals are in many ways being de-educated. When educators teach in ways that only facilitate functioning of the left side of the brain (which processes digital information such as reading, writing and math), they neglect involving right hemispheric activity.

These right hemispheric activities are constructive processes for information processing (Ishiyama, 1988). Teaching, to be most effective, also must stimulate the activity of the right brain. In order for educators to include such practices in their teaching approaches, educational theory, research, and training will need to change.

Purpose of the Study

The purpose of this study was to investigate the effects of an instructional program designed to improve the ability of students to learn holistically. More specifically, this study was an investigation of the effectiveness of the use of a structured program with students to improve their grade point averages and their academic performance orientation (see Definition of Terms), and impact their thinking processes. The study also investigated whether there were differences based on students' genders and instruction format (self-directed versus instructor-assisted). The program was designed to be used with undergraduate university students.

Rationale for the Approach

Today's information-rich, highly technological society is forcing individuals to process and assimilate large

amounts of complex information rapidly. Similarly, education is seeking to keep pace with increased demands on human resources by exploring new and more effective teaching strategies. Estimates that, at best, humans use 4-10% of their brain capacities indicate that there is much room for improvement. Therefore, an instructional program teaching students how to engage both their right and left brains in the learning process makes sense.

Economically, the methodology of this study is inexpensive because the technologies employed were audiovisual. As such, development cost entailed only the purchasing of blank VHS tapes. Such an approach can, therefore, provide education with a virtually cost-free solution at a time when instructional costs are rising and funds are not.

Hypotheses

The following hypotheses were evaluated in this study:

1. Undergraduate students' grade point averages do not differ as a result of participation in the Releasing Mental Potential Workshop.
2. There is no gender-based difference in grade point averages of undergraduate students who participated in the Releasing Mental Potential Workshop.

3. There is no difference in grade point averages of undergraduate students as a result of the format of the Releasing Mental Potential Workshop.
4. Undergraduate students' overall academic performance orientation does not differ as a result of participation in the Releasing Mental Potential Workshop.
 - a. Undergraduate students' test-taking behaviors to prevent blocking and anxiety do not differ as a result of participation in the Releasing Mental Potential Workshop.
 - b. Undergraduate students' techniques to improve listening and absorption in the classroom do not differ as a result of participation in the Releasing Mental Potential Workshop.
 - c. Undergraduate students' techniques for reducing stress do not differ as a result of participation in the Releasing Mental Potential Workshop.
 - d. Undergraduate students' techniques for inputting and accessing academic information do not differ as a result of participation in the Releasing Mental Potential Workshop.

- e. Undergraduate students' motivation to perform academically does not differ as a result of participation in the Releasing Mental Potential Workshop.
 - f. Undergraduate students' ability to manage thought processes does not differ as a result of participation in the Releasing Mental Potential Workshop.
 - g. Undergraduates student's frequency of combining studying with other activities does not differ as a result of participation in the Releasing Mental Potential Workshop.
5. There is no gender-based difference in academic performance orientation by undergraduate students as a result of participation in the Releasing Mental Potential Workshop.
- a. There is no gender-based difference in test-taking behaviors to prevent blocking and anxiety by undergraduate students who participated in the Releasing Mental Potential Workshop.
 - b. There is no gender-based difference in techniques to improve listening and absorption in the classroom by undergraduate students who

participated in the Releasing Mental Potential Workshop.

- c. There is no gender-based difference in techniques for reducing stress by undergraduate students who participated in the Releasing Mental Potential Workshop.
- d. There is no gender-based difference in techniques for inputting and accessing academic information by undergraduate students who participated in the Releasing Mental Potential Workshop.
- e. There is no gender-based difference in motivation to perform academically by undergraduate students who participated in the Releasing Mental Potential Workshop.
- f. There is no gender-based difference in the ability to manage thought processes by undergraduate students who participated in the Releasing Mental Potential Workshop.
- g. There is no gender-based difference in frequency of combining studying with other activities by undergraduate students who participated in the Releasing Mental Potential Workshop.

6. There is no difference in academic performance orientation by undergraduate students as a result of the instructional format for the Releasing Mental Potential Workshop.
 - a. There is no difference in test-taking behaviors to prevent blocking and anxiety in undergraduate students as a result of the instructional format for the Releasing Mental Potential Workshop.
 - b. There is no difference in techniques to improve listening and absorption in the classroom in undergraduate students as a result of the instructional format for the Releasing Mental Potential Workshop.
 - c. There is no difference in techniques for reducing stress in undergraduate students as a result of the instructional format for the Releasing Mental Potential Workshop.
 - d. There is no difference in techniques for inputting and accessing academic information in undergraduate students as a result of the instructional format for the Releasing Mental Potential Workshop.

- e. There is no difference in motivation to perform academically in undergraduate students as a result of the instructional format for the Releasing Mental Potential Workshop.
 - f. There is no difference in the ability to manage thought processes in undergraduate students as a result of the instructional format for the Releasing Mental Potential Workshop.
 - g. There is no difference in the frequency of combining studying with other activities in undergraduate students as a result of the instructional format for the Releasing Mental Potential Workshop.
7. There is no difference in post-workshop evaluations of undergraduate students as a result of the instructional format for the Releasing Mental Potential Workshop.

Definition of Terms

The following definitions are used throughout this study:

Consciousness is a limited state of awareness, in the sense it can only contain five, plus or minus two, bits of information at any given moment (Bandler, Grinder, et al.,

1979). The conscious mind relies on concrete reality, whereas the unconscious is not bound by it. The unconscious can use mental images in the place of concrete reality (e.g., as it does in dreams) and can contain millions of bits of information. The conscious mind needs to be directed whereas the unconscious mind is spontaneous.

Dominant Hemisphere as the left hemisphere is known, is the "dominant hemisphere" because it is responsible for language articulation and comprehension in right-handed people and some left-handed people (Springer & Deutsch, 1981). The left hemisphere executes conscious, logical functions such as reading, writing, and arithmetic.

Two-level Communication is the signaling stream of diverse stimuli which are emitted unconsciously from and/or perceived by the personality (Lozanov, 1978). Puns, riddles, jokes, implication, pauses, metaphors, as well as voice inflection can be used to communicate two or more separate frames of reference simultaneously.

Communications and words processed by the unconscious are heard with all learned connotations and meanings. The unconscious can do this while the conscious mind is focused on and processing manifest communication (Erickson & Rossi, 1980; Lozanov, 1978). Most anything can be used as a metaphor if phrased properly.

Future-pacing in the broadest sense, introducing an idea during a moment of receptivity that is to be actualized later in behavior. The most effective suggestions for future-pacing are those tied to inevitable patterns of behavior the person will experience in the future. It adds an additional behavior to an established chain of behavior.

Hypermnnesia is a phenomena that functions to increase memory capabilities (Erickson & Rossi, 1980; Lozanov, 1978). In this mind state, the person also can recover memories of past experiences long forgotten and generally inaccessible under usual circumstances.

Indirect and Direct Suggestion differ in that a suggestion is indirect if it is given in such a manner that the receiver does not recognize it as a suggestion, but yet carries it out. This is made possible because the unconscious can keep what it comprehends in the communication from the conscious hemisphere. Direct suggestion, by contrast, allows the observing ego to take note of the suggestion, thus giving the conscious mind the power to direct how the suggestion should be carried out. When a suggestion is given indirectly, however, even the observing ego tends to miss it. Indirectly administered suggestions are programmed more easily into the unconscious and can then

emerge more naturally during the course of "ordinary" remembering. Suggestions cued by specific voice inflections can be embedded in stories or isolated by pauses. For example, pausing after saying, "deeper and sounder" is in itself an indirect suggestion to do that now.

Learned Limitations are the mental sets, frames of reference, and belief systems that individuals have acquired from their life experiences that are not permitting them to explore and to utilize their own abilities to their best advantage (Erickson & Rossi, 1980). Limited frameworks and belief systems prevent people from experiencing other patterns of functioning within themselves.

Nondominant Hemisphere is the term used to denote the right side of the brain. It is considered nondominant because it is adept at processing data of a visuospatial, kinesthetic, imaginistic, or mythopoetic nature. The nondominant hemisphere can receive suggestions phrased in the symbolic language of the nondominant hemisphere (Erickson & Rossi, 1980).

Response Attentiveness is extreme attentiveness in responding by the individual to that which is being focused upon. The individual is seemingly incapable of hearing,

seeing, sensing, or responding to anything else (Erickson & Rossi, 1980). It has the effect of dissociating the person from all other things.

The Unconscious is an extremely complex mental system that responds automatically without conscious effort. The unconscious is the "storehouse" of all things that have been learned, but have been forgotten by the conscious mind. These learnings can be utilized by students for increasing motivation to learn and to reduce anxiety and enhance recall. At the same time, the unconscious mind is more comprehending and more capable of learning than the conscious mind. As such, teaching students how to make their unconscious available in learning situations could also aid them.

Overview of the Paper

Chapter II provides a further delineation of the problem and explanation of how this study attempted to use recent research and applications thereof to cope with the problem. Chapter III details the methodology, while Chapters IV and V cover the results and discussion, respectively.

CHAPTER II

REVIEW OF THE LITERATURE

In Chapter I, an overview was given in regards to the current situation in education. More specifically, an overview of the need to develop both hemispheres of the brain when educating was presented. It also was stated that student services personnel face the challenge of coping with the current deficits in the educational system that are preventing many students from exiting institutions of higher education. It was then proposed that the works of Milton H. Erickson and Georgi Lozanov could be utilized to alleviate some of the current deficits. The works of Erickson and Lozanov have in common their reliance on whole brain functioning.

Some educators have rebelled against the radical and neoprogressive currents of the sixties resulting in a "back-to-the-basics" movement (Hechinger, 1978). Consequently, education currently finds itself dealing with a conflict, moving back to basics (i.e., left brain) instruction, or devising and implementing teaching strategies using research on (right) hemispheric functioning. According to Williams (1983):

Hemispheric specialization has significance for all areas of education. Researchers probing the differences in the functioning of the hemispheres are contributing to the understanding of how learning occurs and the factors that create learning problems. Specialists in learning disabilities are drawing on this research to improve techniques for assessing causes of specific problems and suggesting strategies to remediate them. While the work of both these groups will benefit teachers, at present the major application of hemispheric research in the classroom is as a stimulus to reevaluate the teaching techniques we use in light of the new information about how the brain operates. (p. 27)

In research on hemispheric functioning is found the idea that the verbal, analytical process usually identified with thinking is only one way of processing information and that a second, equally powerful way also exists. That insight should alert educators to the need to broaden teaching strategies so that techniques can be developed which present and manipulate information in new ways (Amundson, 1988; Williams, 1983). This view is also supported by Dennison (1981) who has developed "whole brain" learning techniques.

Dilts, Grinder, Bandler, Bandler, and DeLozier (1980), from their perspective on hemispheric functioning, believed educational systems are having problems because they are geared towards visual and auditory teaching strategies. Consequently, many strategies do not lend themselves well to what they call "academic" subject areas:

One of the classic stereotypes in education is that of the athlete who has a difficult time in the visual and auditory world of lectures, blackboards and books; and likewise the thin, tense "A" student who has difficulty in the kinesthetic world of athletics. Written tests and the classroom environment are visually and auditorily oriented. In our experience, many young people who have been labeled "slow," "handicapped" or "disabled" in this context are far from "stupid," they simply have different strategies for learning that are not utilized by present techniques of education. (p. 154)

Additionally, Dilts, et al. (1980) wrote that "the establishment of bad anchors and negative feedback loops is one of the major problems within institutionalized education" (p. 155). A negative anchor (i.e., stimulus) for many students is "tests." Tests become "anchors" for stress and anxiety. If tests are not utilized positively in recall or creativity, then chances are they will inhibit performance. Dilts, et al. (1980) have found that teachers who use group relaxation techniques before tests enable such students to improve their test scores. Similarly, by pairing learning situations with jokes and anecdotes, teachers can strategically anchor and program learning to be a positive experience.

Bloom (1980) further delineated the role of teachers and felt that they should have greater participation in the learning process. Greater interpersonal skills on the part of teachers, such as good communication skills and competence in living, are necessary elements in the

learning process. Teachers' participation should engage the student. Similarly, Miller (1978) believed that in the future more emphasis will be placed on affective aspects of the curriculum. Both Bloom (1980) and Miller (1978) emphasized the importance of interpersonal skills in facilitating students' learning and affective behavior.

Given the above regarding teaching, learning, and traditional teaching methods, educators are currently faced with finding solutions to major problems (Fortgang, 1980; Iverson, 1981; Lee, 1977; Mills & Crowley, 1986; Postman, 1979; Schwab, 1978). Today's information-rich technological society places demands on students not only to learn the curriculum, but to also understand their own learning processes in order to maximize their talents.

Support for the Theoretical Framework

Erickson and Lozanov (1978) share a common view when it comes to the functioning of the unconscious with its immense learning capacities. Therefore, their work will be used to establish the theoretical framework. However, because Erickson was atheoretical, Lozanov's theory will be used to establish further the theoretical framework.

Lozanov's variables for facilitating unconscious learning processes (i.e., authority, infantilization, double-planeness, intonation, rhythm, and concert/

psuedopassiveness) will be discussed further. The RMP program taught these processes. How they were utilized also will be discussed.

The concept of authority, as used in suggestology, stands for non-directive prestige which by indirect ways creates an atmosphere of confidence and an intuitive desire to follow the set example (Lozanov, 1978). According to Lozanov (1978), information carried by such authority generally "guarantees" that the information will be associated, coded, and symbolized. In this study, efforts were made to build the program's authority to facilitate those processes identified by Lozanov in order to better establish the learning being taught in the program.

Infantilization is a state of mind that elicits increased memory abilities. This state can be seen in young children. It is well known that children can memorize much more information than adults (Lozanov, 1978). With the advance of age, memory functions and the flight of imagination begin to lose significance in proportion to the growth of reasoning, which helps humans logically understand connections, interrelations and laws of nature and society. Lozanov (1978) wrote:

The striving to develop the reasoning power results in minimizing and retarding the development of memory, emotions and imagination. Simultaneously, in the phylogenetic and ontogenetic aspects, a social norm is apparently established not only for the significance of

the memory functions, but for their capacities. Thus, imperceptibly, a suggestive conviction about the average level of human memory is formed. This suggestive norm is the major one removed in suggestopedic courses; therefore, a desuggestive process takes place rather than suggestion. (p. 38)

Given that a "social norming" process causes the individual to lose some of his/her capacity for memory as well as the use of imagination (Buck, 1988), this program attempted to reconnect students with these abilities inherent in their imagination. This was attempted by presenting audio and visual materials and teaching students how to utilize these processes.

Erickson (1976) related that people have problems because of the conscious programming that severely limits their capacities. Erickson (1976) coined the term "learned limitations" to convey the concept. According to Erickson (1976), "the solution is to help them break through the limitations of their conscious attitudes to free their unconscious potential for problem solving" (p. 18). Support for this dimension of the program is provided by Shor (1959) and Deikman (1972), both of whom emphasized the importance of "de-automatizing" an individual's habitual mode of functioning.

Students have trouble in specific classes or with coursework because of the beliefs they have about

themselves or their abilities. This program addressed ways of getting around these beliefs.

Double-planeness is a variable identified by Lozanov (1978) which takes into account the unconscious or semiconscious signals received by an individual. These unconscious signals process information of great value to the receiver. Communication on this second plane could be used to facilitate, indirectly, students' unconscious learning processes. Portions of this program were intended to appeal to the unconscious - suggesting ideas and practical techniques for the unconscious to use. Ishiyama (1988) supported the value of metaphors and symbols to facilitate unconscious information processing.

Erickson coined a term, as well as many techniques, which utilize Lozanov's (1978) concept of double-planeness. However, Erickson used the term "two-level communication." In that regard, Erickson was able to talk to the individual's conscious mind and unconscious mind simultaneously, with each mind getting separate and distinct messages. This was attempted in the program used in this study through the use of various communication devices developed by Erickson.

Lozanov's (1978) ideas regarding the value of intonation are illustrated by these comments:

The affective content of intonation facilitates a more profound emotional activation of the personality. A suggestive atmosphere is not created and the reserve mechanisms of unconscious mental activity are not liberated by every intonation and every condition. In this sense, intonation can be regarded not so much as external richness of tone, but as an expression of internal psychological content. Internal intonation, import and an atmosphere of expectation can also be created by some hardly noticeable external sound variation. Very often, a pause is richer in content than the effective sound shape of suggestive speech. Intonation, however, is not absolutely necessary to achieve high suggestive results. It only facilitates the suggestive process. (p. 195)

Students were alerted to the values of intonation and how they could use this creatively while reading material for study purposes. They were also encouraged to use internal as well as external dialogue.

Another important variable in the process of learning is rhythm. Rhythm is a basic biological principle. There are daily rhythms, seasonal rhythms, and annual rhythms (Lozanov, 1978). In the suggestopedic courses, teachers fill in intervals with what Lozanov (1978) called psychological pleasantness, meaningfulness, and authoritativeness. He felt that the rhythmically correct intonation in the presentation of ideas assured a high degree of durable memorization.

This program attempted to establish a rhythm in the presentation that maintained the orientation reflex at an optimal level and which also took into account the

Ultradian cycle. The Ultradian cycle (Hiatt & Kripe, 1975; Rossi, 1981; 1982), a 90-minute cycle present during sleep, is also present throughout the day. "Fantasy, intensity, alpha waves, eye movements, and hunger are all related in this basic rest and activity cycle throughout the day" (Erickson & Rossi, 1981, p. 39). Students, by way of the program, were encouraged to be aware of their own rhythms and to take advantage of these peak times in their biological rhythms.

The concert state, or psuedopassiveness, another variable discerned by Lozanov (1978), is of paramount importance in helping poor learners to become better learners. The maxim that "everything can be acquired through work," although fundamentally true, is incorrectly understood, and students get the idea that they must make extreme efforts to memorize (Lozanov, 1978; Weingartner, 1986). Such efforts activate many unnecessary memorization activities, which leads to rapid fatigue and a reduction in memory capabilities.

Erickson (1985), like Lozanov (1978), recognized the importance of securing from his patients a special type of passive responsiveness called "response attentiveness." At a meeting of The American Society of Clinical Hypnosis (of which Erickson was the founder and first president) in

Chicago, Illinois, October 1958, Erickson said this about "response attentiveness":

In this matter of getting your patient's attention you ought to talk to him in such a fashion that you keep him right on the edge of attentiveness. You do not talk too loudly; neither do you talk in too low a tone. You try to talk to him as if you were just speaking to him, and not including this water pitcher. Your voice is only going to carry from you to the patient, right here, and no further. You need to understand that, and analyze your own reaction to that particular way of addressing a patient. It keeps the patient fixing his attention on you. You never talk in too low a tone of voice because it tires out your patient. You never make him strain unduly. You just ask the minimum effort from him so that all of his energy is given to an acceptance and an understanding and a responsiveness to ideas. . . . In such a situation the unconscious is going to be decidedly attentive. (p. 153)

Like childhood, where new things are memorized more easily and without effort and strain, memorization in the concert state can take an unconscious course in normal, calm perception (Gilligan & Bower, 1984; Lozanov, 1978). However, teaching is often misguided, and this normal, spontaneous process is deformed (Lozanov, 1978). This results in unnecessary, involuntary activity on the part of the learner. Lozanov (1978) stated:

Quite often, when they have to memorize a large amount of material, they stiffen their body musculature and bring on vegetative nervous system changes and mental strain.... Activeness, however, in our opinion is not expressed in muscular contractions, vegetative changes and mental strain, but solely in the attitude toward the process of teaching and learning. An active and

conscious attitude toward this process ensures its full utilization, but activeness in memorization can be expressed even in apparent external passiveness. (pp. 197-198)

This passiveness is like the passiveness of children's perception in memorization. Behavioral passiveness in the adult is an expression of a superactive attitude toward the material being taught. Such passiveness facilitates hypermnnesia and liberates the intellectual activity to operate without any disturbing strain.

The RMP program incorporated work with these students to teach them how to coordinate their emotional, physical, and mental processes in order to bring about this state of passiveness within themselves. Once this learning is established it can be used by them in any setting desired.

In its constant interrelation with the environment, the human organism has developed many means of self-protection. The following are examples of "biological barriers" (Lozanov, 1978): mechanical, thermic, infection, intoxication and other resistances of healthy skin, bactericide properties in mucous, blood coagulation, and congenital and acquired immunities. There are also psychological self-protective mechanisms.

Lozanov (1978) identified three psychological barriers. First, there is the anti-suggestive barrier

built up by critical thinking. When suggestion falls within the field of consciousness (i.e., of critical thinking), it is weighted carefully in all its aspects before being accepted. The critical, conscious assessment of the situation, which tends to be transformed into suggestion, is also the first serious barrier to suggestion and/or learning. The critical, logical barrier rejects everything which does not give an impression of well-intended logical motivation.

A second anti-suggestive barrier identified by Lozanov (1978) is the intuitive-affective barrier. This barrier rejects everything that fails to create confidence and feelings of security. There are certain intuitive-affective responses which, when evoked, shut down brainwaves of the individual (Derry, 1988; Lynch, McGaugh & Weinberger, 1984).

In addition to the logical and affective anti-suggestive barriers, there is also the ethical barrier. It has been proven (e.g., Lozanov, 1978) that suggestion contrary to an individual's ethical principles is not accepted. Therefore, in working with students (i.e., teaching them how to use unknown potentials) suggestions must be tailored to use or bypass each of the anti-suggestive barriers.

Bypassing and utilizing the logical, affective, and ethical anti-suggestive barriers requires not so much an overcoming or imposing of something on students, but rather bringing suggestion into harmony with their individual structures. The more a suggestion harmonizes with the logical requirements of the personality, and with its congenital negativist nucleus, the quicker and easier the suggestion is realized (Lozanov, 1978). The "overcoming" of barriers signifies harmonization with the barriers. Otherwise, suggestion is doomed to failure.

In an effort to deal with these anti-suggestive barriers Erickson's indirect forms of suggestion were used, as were audio visual materials relevant to the students. These indirect forms are explained further in the Support For The Approach section of this paper.

To summarize, under conventional conditions of studying, when suggestopedic principles are not observed, the educational process is accompanied by tension. The tension produces unnecessary and parasitic movements in the muscles of the face and body. The vegetative-endocrine system is in a characteristic state. Emotions such as anxiety and tension appear; the result is the person begins doubting his/her personal capacities to understand and memorize. However, if students while doing individual work

or working with teachers, observed the principles of joy, absence of tension, and concentrative psychorelaxation, they would have confidence in their abilities. They could then be more effective learners (Weiss, 1988).

Support for the Need of the Study

If education is to develop methodologies that better enable people to assimilate scientific and technological information, it will need to use present day knowledge of hemispheric functioning. It must take into account those variables identified by Lozanov, and teach students how to maximize their use rather than only using traditional methods to teach reading, writing, and arithmetic (Derry, 1988; Weiss, 1988).

According to Levine (1980), teaching people reading, writing, arithmetic, speaking, problem-solving, lifelong learning, "garbage sorting" (i.e., identifying the drivel, exaggerations, and untruths that are heard and read each day), and survival (i.e., how to cope with a rapidly changing environment) skills is a serious educational need. Of importance here is that many of these skills require effective right hemispheric functioning.

Levine (1980), however, did not state precisely how people are to learn these skills. Consequently, the need to find such methodologies continues. This study,

therefore, with its application of Lozanov's suggestopedia, Erickson's indirect forms of suggestion, and recent research into hemispheric functioning, investigated one possible methodology to accomplish this goal.

This study holds implications for educational practices in view of the fact that the "pressure for grades is enormous" (Levine, 1980, p. 230), and this enormous pressure devastates some students. In an article by Achebe (1982), two incidents are cited wherein examination failure resulted in suicide. Achebe (1982) reported:

This inability to reach the required standard has turned out to be the misfortune of a good number of students. Their feeling of loss of self-esteem and depression is excruciating. Some go without food, isolate themselves from the company of their friends, or resort to drug abuse. (p. 542)

Grades are not going to go away. However, holistic ways of dealing with the pressure such as the one examined in this study can provide students with better alternatives to bad grades than suicide.

Educational practices that deal effectively with anxiety, therefore, could help many students deal with stress (Palan & Chandwani, 1989). Anxiety also causes some students to drop out. According to Head and Lindsey (1980):

University students must learn to live and cope with anxiety that results from attending lectures,

completing assignments, or taking tests. Yet, many students are unable to deal with anxiety and "flunk" out or "dropout" of college. Sadly, anxiety may become so intense that students not only contemplate suicide but also carry out the taking of their lives. (p. 176)

Support that anxiety affects performance is given by Sarason and Mandler (1952), Bernstein (1958), and Heald (1970), among others. They found that low anxious students exhibited higher performance, whereas high anxious students exhibited lower performance. Similarly, Lozanov (1978), in discussing the three principles of suggestion (i.e., joy, absence of tension, and concentrative psychorelaxation), stated that observance of these principles makes teaching students how to learn imperative for the instructor.

Smith (1980), pointing to the need for a redefinition of the professional educator, believed teachers should do more than teach. The four additional areas stressed by Smith (1980) included: diagnosing student skills, abilities, and readiness for the curriculum or learning situation in question; organizing material, situations, and other resources to maximize the possibility of successful teaching and learning; teaching, experiencing, studying, and feeling the learning through the subject matter being shared; and ascertaining how the learner has changed as a result of the educational effort that has been taken and then documenting that change. The four additional areas

stressed by Smith would be most effectively implemented if students had an understanding of hemispheric functioning as well as the related variables involved in learning.

This study holds implications for educational theory as well. Sonnier (1982) and Lyddon (1989) confirmed the need for a form of holistic education that takes into account the functioning of both the dominant and nondominant hemispheres. Likewise, Bogen (1975), who also researched hemispheric functioning, believed that society has overestimated left brain thinking at the expense of right brain thinking. For example, intelligence tests are justified on the basis that they predict success in a society that most often measures success monetarily and in terms of productivity. Bogen (1975) argued that such measures are narrow and do not take into account artistic creativity and other not easily quantified (e.g., right hemispheric) skills. By implication, if educational theory can begin to acknowledge right hemispheric skills, it would immediately begin creating new "social norms" for human capacities, as well as providing students with skills which tap and utilize nondominant hemisphere functions.

Dilts, et al. (1980) held that it is important for anyone involved in teaching to understand right brain feedback given by students. For example, if teachers were

able to use their sensory channels to pick up nonverbal cues from students, such as head nodding, breathing changes, and other systematic minor body movements, then they could judge who was following the presentation and who was not. Observing eye movements, tonal shifts, and other easily available accessing cues also would enable teachers to know which strategies students were using in the learning process (Dilts, et al., 1980). Consequently, students can learn how to understand and use these nonverbal communications (i.e., communications from the right hemisphere) to cue them in to what the teacher wants (e.g., what may be asked on a test.)

Lozanov (1978) believed "that teachers should have theoretical and practical training to enable them to utilize the emotional stimulus and the peripheral perceptions" (p. 261). This understanding would also benefit the student. He also stated:

Both in perceptions and in thinking, paraconscious processes accompany each conscious activity, giving it depth and perspective. This is due to a great extent, not only to their relevant, but also to their irrelevant character and to the personality's concentration at any given moment. Teachers must be familiar with the numerous variants of unconscious perceptual and thinking processes, so that they are better able to utilize them in the educational process. (Lozanov, 1980, p. 261)

Kotler (1978) believed that education is going to have to overcome two major obstacles in the future: rising

costs and lack of quality in teaching. Kotler (1978) stated:

What educators need then are fail-safe teaching materials or educational packages. With these materials in hand, most teachers could deliver a first-rate college course simply by following a script. The educational packaging concept is simply a higher stage in an evolutionary process that started with the standard college textbook. (p. 240)

Such a "packaged" approach might also be used with students in an effort to teach them how to facilitate their own learning processes.

Finally, a number of studies on imagery (a right brain function) have supported the functional significance of imagery in problem-solving (Achterberg, 1985; Dean & Huttenlocher, 1968; Ishiyama, 1988; Kulhavy, 1979; Paivo, 1975; Zdenek, 1987). As such, imagery is something that students can be trained to utilize to facilitate learning. The students in the program presented in this study were taught some of these techniques.

Lozanov's (1978) double-planeness is a concept that refers to the verbal and nonverbal aspects of communication which carry suggestive effects. This second plane, as it is referred to by Lozanov (1978), is synonymous with what Bandler and Grinder (1980) and Erickson and Rossi (1981) referred to as "metalevels." Such "metalevel" communications were used in this study. In discussing the

enormous capacities of "metalevels," Erickson and Rossi (1981) stated:

We may find that these metalevels are actually right hemispheric styles of coping that have a peculiar logic of their own in the form of symbols, imagery, and all the nonrational forms of life experience that have been intuitively recognized as healing. In this case we need to develop a right-hemispheric science of what in the past has been the domain of mysticism, art and the spiritual modes of healing. (p. 257)

Support for the need for research in using right hemispheric functions to facilitate learning also is given by Krippner (1963):

The use of hypnosis [a right brain function] in educational settings deserves additional study and further application. At this point no controlled research is available demonstrating the superiority of educational hypnosis over other task-oriented procedures.... Hypnosis is not a panacea and must be used in combination with other methods and techniques. (p. 190)

Hypnosis can be used in combination with other methods and techniques, but it is a matter of unlocking the right combination of method and technique. This study, in an effort to evaluate one combination, combined the methods and techniques of Erickson (1980) and Lozanov (1978).

Support for the Approach

Support for the approach to this study is found in the research of Reider and Hibikh (1967) who tried autogenic training and muscle relaxation to improve memorization. Under certain conditions, they succeeded in improving

memorization without reaching hypermnesia. Reider and Hibikh were inclined to attribute the improvement in memorization capacities to autogenic training and muscle relaxation to states such as alpha wave. Notably, alpha wave states always involve right hemispheric functioning.

Further support for the positive outcomes achieved when unconscious processes are utilized is given by Kilman and Goldberg (1962) who, through hypnosis (i.e., right hemispheric activation), increased students' concentration as well as their abilities to recollect visual perceptions. Similarly, Selzberg (1960) found that memorization was better under hypnosis than in the waking state. Hypnosis was also used by Eisele and Higgins (1962) and Lodato (1964) to lessen students' fear of examinations. The effectiveness of hypnosis as an aid in the learning process is also given by Krippner (1963) and Fowler (1961) who used clinical hypnosis to improve students' abilities to concentrate.

Barber (1964, 1965a, 1974), a hypnotherapist who also used hypnosis to assist students with academic performance, stated that achieving a complete hypnotic state was not necessary to obtain these results. Similarly, Lozanov (1978) believed that it was a matter of facilitating unconscious learning processes and not hypnosis per se that

was responsible for the increased learning capacities demonstrated by his students. Regardless, however, educators needs to understand and facilitate right brain functioning so students can be enabled to use unconscious learning processes (Williams, 1983).

The techniques developed by Erickson to facilitate right hemispheric functioning were eventually categorized by Erickson and Rossi (1980) and termed "the indirect forms of suggestion." This study used these indirect forms of suggestion to explore the effectiveness of their utility.

Erickson used indirect forms of suggestion to "jam" the linguistic and logical-grammatical organization of consciousness to enable people to "break out" of their "learned limitations," and to facilitate right hemispheric activity. The indirect forms fall into the following categories:

1. Indirect Associative Focusing
2. Truisms Utilizing Ideodynamic Processes and Time
3. Questions That Focus, Suggest and Reinforce
4. Implication
5. Therapeutic Binds and Double Binds
6. Compound suggestion: Yes Set, Reinforcement, Shock and Surprise, and Contingent Suggestion and Association Networks

7. Multiple Levels of Meaning and Communications
8. The Implied Directive
9. Open-ended Suggestions
10. Covering All Possibilities of Response
11. Apposition of Opposites
12. Dissociation and Cognitive Overloading
13. Other Indirect Approaches and Hypnotic Forms
(Erickson & Rossi, 1980, p. 456)

The impact of using Erickson's indirect forms of suggestion by student services workers is virtually untested, or at least has not reached prominence in the literature. This study utilized these indirect forms of suggestion to assist students. The primary focus of the program was geared towards teaching students how to use their unconscious and conscious learning processes. What follows is some neurological and brain research to further support the validity of the Erickson/Lozanov approach.

Despite the fact that the three speech areas are all on the left side of the brain (for "right handers"), there is evidence to support the notion that both hemispheres can understand language. "Stroke patients who have hemorrhages on the left side of the cortex cannot talk, but can still understand" (Jaynes, 1966, p. 107). Further evidence is given by the Wada Test (a presurgical procedure before

brain surgery) where sodium amytal is injected into the left carotid artery leading to the left hemisphere. As a result, the entire left hemisphere is anesthetized, leaving only the right hemisphere working; these subjects can still follow directions (Wada & Rasmussen, 1960).

Tests on commissurotized patients, wherein the midline connections connecting the two hemispheres were severed, also have demonstrated considerable understanding by the right hemisphere (Gazzaniga, Bogen & Sperry, 1972). Even when the entire left hemisphere was removed from patients suffering glioma, the remaining right hemisphere immediately after the operation could understand the surgeon's questions. This occurred despite an inability to respond verbally (Smith, 1975).

Erickson utilized the ability of the right hemisphere to comprehend language linguistically by saying to the patient, "You don't even have to listen to me because your unconscious is here and can hear what it needs to respond in just the right way" (Erickson, 1980, p. 235). It should be pointed out that Erickson delivered his suggestions to produce the desired effect in a sequential manner, not as they are presented here. The reason for coupling the research with the Ericksonian utilization is to demonstrate their validity and practical applications.

There also is evidence that the two hemispheres act independently. This evidence also comes from neurosurgical patients who have undergone a complete commissurotomy, wherein the midline connections of all the interconnections between the two hemispheres (the corpus callosum) were severed. This procedure, often applied to epileptics, usually cures the untreatable epilepsy by preventing the spread of abnormal neural excitation over the whole cortex.

In a study by Gazzaniga, Bogen and Sperry (1965) with commissurized epileptics, fascinating and crucial defects were revealed in their ability to process sensory input. The experimental procedure required the person to fixate attention on the center of a translucent screen while photographic slides were flashed on the left side of the screen. The objects, therefore, were only seen by the right hemisphere. The person had no comprehension of the fact that his/her right brain had seen the image. Consequently, the person could not verbally report on what was seen, but could with the left hand (controlled by the right brain) point to a matching picture.

Because the midline connections were cut, the right hemisphere could not transfer the information to the left (verbal) hemisphere. Erickson, with the understanding that the two hemispheres can act independently, stated: "A per-

son seeking therapy comes in and tells you one story that is believed fully at the conscious level and in non-verbal unconscious language can give you a story that is entirely different" (Erickson, Rossi & Rossi, 1976, p. 156). A videotaped demonstration with one of these subjects was used in the program, as well as another experimental demonstration of the relationship between conscious and unconscious awareness. In addition to the explanation provided by the experimenter, practical applications and explanations were offered that are relevant to academics.

Erickson, in working with clients, would often create a linguistic dissociation between the two hemispheres, thereby facilitating independent action. For example:

I just want to talk to your unconscious mind because it is here and close enough to hear me, so you can let your conscious mind listen to the street noises or the planes overhead or the typing in the next room. Or you can think about any thoughts that come to your conscious mind, systematic thoughts, random thoughts, because all I want to do is talk to your unconscious mind and it will listen to me because it is within hearing distance even if your conscious mind does get bored. (Erickson, Rossi & Rossi, 1976, p. 156)

Further demonstrating a working knowledge of this ability of the right and left hemispheres to act independently, Erickson stated:

Now there are many ways in which the mind can function in which the unconscious can join the conscious mind. Many different ways in which the unconscious can avoid the conscious without the conscious mind knowing that it has just received a gift. (Erickson, 1980, p. 312)

Another experiment by Gazzaniga, Bogen and Sperry (1965) supported the dichotomous functioning of the conscious and unconscious. In that experiment, two different figures were flashed simultaneously to the right and left visual fields; a dollar sign to the left and a question mark to the right. The subject was asked to draw what had been seen, using his left hand. The left hand, which was out of sight under a screen, drew a dollar sign, while the subject verbally insisted that a question mark had been drawn. In other words, the verbal hemisphere saw the question mark and the right hemisphere saw the dollar sign. Because midline connections were no longer intact, the verbal hemisphere insisted on one perception while the other hemisphere demonstrated its perception.

The asymmetry between the cerebral hemispheres also shows up in interesting ways in common, everyday tasks. Gardner (1975, p. 374) commented on Kinsbourne's (1974) findings:

Kinsbourne's model of hemispheres competing for control of attentional mechanisms has generated some imaginative research, both on his part and on that of others. He has found, for example, that skill in balancing a dowel in one hand is enhanced when one is simultaneously speaking if the dowel is in the left hand, while performance is impaired when one is speaking if the dowel is in the right hand. His explanation is that speaking and balancing are competing activities, which, owing to the "spill-over" effect, interfere with one another when they both occur

in opposite hemispheres, and they then promote and facilitate one another. Exemplifying the same, complementary side-effect, speaking improves the subject's ability to recognize elements in the right visual field, even when those shapes are nonsensical. In contrast, when the patient rehearses melodies (a right hemispheric function), a left-visual-field advantage results.

It has been established in research by Smith, Chu and Edmonton (1977) that it also is possible to occupy one cerebral hemisphere with music such that the activity of another is facilitated. In other words, the mind can be occupied with two tasks at once.

The field of linguistics, according to Bandler and Grinder (1975), offers a vast resource for understanding how humans process complex segments of language at nonconscious levels. Even though there is no complete answer, Bandler and Grinder (1975) believed that when Erickson used the term "unconscious" he was referring to that partial functioning of the dominant cerebral hemisphere that occurs below the level of awareness, as well as the functioning of the nondominant cerebral hemisphere.

Further support for Erickson's ideas about the unconscious mind can be found in the physiological research done by Pavlov (1928). It is summarized here to support the validity of the mechanisms utilized by Erickson. Its

reliability also is supported by the fact that almost all researchers have found the same mechanisms via independent research.

Pavlov (1928) is known in psychology for his contributions in the area of "classical conditioning," wherein an unconditioned response is associated to a conditioned stimulus. However, the true significance of his work is not known to many. In order to familiarize the reader with some of his conclusions, his findings will be coupled with Ericksonian ideas to demonstrate their commonalities.

Pavlov (1928) wrote about conditioned reflexes in the human organism.

It is necessary to recognize the existence of two kinds of reflexes. One group of reflexes ready from the time of birth are purely conducting reflexes; but the other group continually and without interruption being formed during the life of the individual, and just as regular as the first group rest on the basis of another property of the nervous system, viz., its ability to make connections. One reflex can be called inborn, the other acquired; the first generic, the second individual unconditioned, conditioned.... By this formation, physiology naturally comes into possession of an enormous mass of inborn reflexes.... Consequently, with the establishment of this new definition of conditioned reflexes, physiology lays claim to an enormous territory for investigation. This is a territory of higher activity, connected with the higher centers of the nervous system, while the inborn reflexes are situated in the lower parts of the central nervous system. If you remove the cerebral hemispheres of an animal, the simple reflexes remain; but the new, connecting ones disappear. (p. 267)

Pavlov (1928) explained that man has inborn reflexes such as hunger, thirst, sex, etc., and that man learns to associate these inborn reflexes with stimuli in the external world, thereby forming an association. In as much as he calls them "reflexes," it indicates that these associations, new and old, occur without conscious intentionality. Now, consider a simple definition of the unconscious according to Erickson.

The unconscious is made up of all your learnings over a lifetime, many of which you have forgotten, but which serve you in your automatic functioning of these unforgotten memories. (Zeig, 1980, p. 33)

It would appear then that what Pavlov (1928) saw as "inborn reflexes" and "acquired reflexes," Erickson denoted as the "automatic response system" or the unconscious (Zeig, 1980). Expanding further on the unconscious, Erickson (1985) wrote:

We unconsciously sort out from our lifetime of experiences the things that we keep as conscious understandings, and then we put into the unconscious mind a tremendous number of other things. In the treatment of various conditions you ought to rely upon that vast reservoir of learning that the unconscious mind has. By the establishment of trains of thought, trains of associations and by the stimulation of other forms of activity.

Elaborating on this notion of reflexes, Pavlov (1928) stated:

The chief fund of nervous activity consists of a mass of reflexes - constant, inborn connections of internal or external stimuli with certain activities of the

executive organs.... The next highest step of nervous activity is occupied by the so-called associations or habits, i.e., connections formed during the life of the individual owing to the coupling or combining function of the cortex of the cerebrum. The formation of associations proceeds on the principal of signaling. When some indifferent stimulus accompanies once or several times an inborn definite reflex, then this indifferent stimulus acting alone later has the power to call out that reflex with which it coincided. In the presence of definite conditions the associations formed regularly and inevitably. Thus we have the right to consider the associations as pure reflexes, though acquired, and to investigate them exclusively from the physiological point of view. I and my collaborators call both sorts of nervous activity reflexes, and designate the inborn as unconditioned, and the newly formed ones as conditioned, and the corresponding stimuli which provoke them as, respectively, unconditioned and conditioned. (p. 239)

In other words, "signaling" can give to an indifferent stimulus the power to call out the associated reflex. This idea, presented by Pavlov, explains the phenomena called "posthypnotic suggestion." According to Erickson and Rossi (1980):

In the broadest sense we can speak of posthypnotic suggestion whenever we introduce an idea during a moment of receptivity that is later actualized in behavior. That moment of receptivity can occur during a formally induced trance or during the common everyday trance in which attention is fixed and absorbed in a matter of great interest.... The most useful forms of suggestion for posthypnotic suggestions are contingency suggested and associational networks, whereby posthypnotic suggestions are tied to inevitable patterns of behavior that the patient will experience in the future. These inevitable behavior patterns function as cues or vehicles for the posthypnotic suggestion. The patient's own associations, life experiences, personality dynamics and future prospects are all utilized to build the posthypnotic suggestion into the patient's natural life structure. (p. 85)

Posthypnotic suggestion (future-pacing) was an important aspect of this study because it was the phenomena employed to generalize the learnings acquired in the program to the classroom and elsewhere. Students were also taught how to use this process for themselves in order to access studied material in the test-taking context.

An imagined reality can stimulate a conditioned reflex or the formation of a new one because of what Pavlov (1928) called "psychical stimulation." Although Pavlov relied on an external world stimulus, this research, based on the work of Erickson, attempted to establish that "psychical stimulation" can be produced by the imagination as well.

We know very well that when we are hungry and want to eat, saliva flows if we see food. Hence the expression "the mouth waters." There is, however, no kind of contact. Concerning these facts, physiology used to say that besides the ordinary stimuli, there is a psychical stimulation of the salivary glands.... It appears that psychical stimulation, i.e., the action of a substance at a distance, is absolutely the same as when it is in the mouth. In every way it is the same. (p. 263)

Pavlov (1928) later stated, "It has been proved that anything, whatever you will, from the external world, can be made a stimulus of the salivary glands. The basic prerequisite is coincidence in time" (p. 265).

Erickson (1985) wrote, "The unconscious mind is that part of the mind that deals primarily with symbolic

thinking in which there is no need for external reality orientation but in which there is the capacity for such orientation" (p. 5). The unconscious relies on memories, ideas and concepts for its reality orientation, as well as external reality.

In Life Reframing in Hypnosis, Erickson (1985) made the point even more clearly:

In other words, you treat the unconscious mind and the conscious mind as two separate individuals that are functioning for the good of the person. Your body has had a lot of experience; there is a tremendous wealth of actual physiological experience that warrants the expectation that one could build up a hypnotic situation to control capillary flow of blood; and with the capillary flow of blood you could also control salivary glands, or you could stimulate those glands. You can say a single word to someone that will produce tears. Those tears require an alteration of the flow of blood in the tear glands, and you don't even know how those tear glands are supplied blood. There is a wealth of knowledge that exists in your body, of which you are totally unaware, and that will manifest itself when given the right psychological or physiological stimulation. (p. 121)

Further explanation is given in Healing and Hypnosis (Rossi, Ryan & Sharp, 1985).

In the ordinary conscious state you are very, very dependent upon concrete reality. In the trance state, however, you can look at that glass of water right there, substituting for the actual glass a visual memory or a concept of what a glass of water is. You make this substitution of the memory for the real, just as you use memories and concepts in dreams. As soon as you recognize the tendency of the unconscious to rely upon memories, ideas, and concepts in place of concrete reality it is much easier for you to ask your hypnotic subject to hallucinate. You're asking your patient to

substitute for the state of pain the memory of a very pleasant feeling because in the unconscious there is a memory of a very pleasant feeling. All you want to do is take your patient's attention away from the concrete reality of the state of pain and direct to that very real and genuine concept of learning or memory or experience of comfort that exists within the unconscious mind. (p. 102)

Moreover, further support is provided by Penfield (1967) who, while doing brain surgery, stimulated various parts of the brain for experimental purposes. This is what Penfield (1967) had to say about signaling:

The mechanism of conscious signaling can set off stimulation in the temporal cortex and only there. It is not surprising, therefore, to discover that the key which unlocks the experience of bygone days is also located in that general area of the cortex and only there. It is more than a key; it is an electric switch that sets the stream of the individual's perceptions of a bygone day into motion again. These are facts. Local ganglionic activity in what I have called the interpretive cortex can produce these conscious signals. It can cause patients to re-experience the past. This area of the cortex then must serve a specialized function which may be called "psychical" perhaps, to distinguish it from sensory or motor function. (p. 33)

Penfield (1967) viewed signaling as a biological cross indexing of abstract characteristics of experience so that each new stimulus has its own immediate connection with previous experiences in which a similar stimulus occurred. This cross indexing is a subconscious process.

The mechanism identified by Penfield (1967) serves human interaction nicely. For example, you meet a man who appears familiar to you; as another example, you hear a

voice in the night and it is that of a loved one, you hear another voice and it is strange. Or sound and sights may grow suddenly louder and larger; it is something coming towards you. These simple judgments are made with some frame of reference to past learnings and are initiated automatically by this cross indexing system.

Given "classical conditioning" and Erickson's indirect forms of suggestion, which allow reorganization and reassociation of psychic life, is it possible therefore to make academic achievers out of underachievers? This study was a search for one response to that question.

Summary

Education, in its efforts to keep up with the demands of a rapidly changing technological society, is struggling to find solutions to its problems. For more than 20 years, various educators have been groping for answers. The solutions have ranged from open classrooms to greater emphasis on the three Rs - reading, writing, and arithmetic. More recently, Lozanov, from his success in teaching foreign languages in an accelerated fashion, has opened the door for education to begin using the paraconscious in instruction. This study, utilizing the techniques of Erickson and Lozanov, investigated the

possibilities of establishing a possible application of these techniques.

Ericksonian techniques have been substantiated by research into hemispheric functioning, as well as by research in linguistics and neurology. If this study demonstrated effectiveness, it would hold implications for the training and practices of educators. At the same time, it might also require educational institutions to question their current theories of learning and their practices.

CHAPTER III

METHODOLOGY

Just as the "age of technology" has placed greater demands on education, at the same time it has provided research disclosing the complex nature of learning. However, even in view of what is known, educational processes do not as yet fully teach students how to integrate their emotional, psychological, physical, and intellectual faculties into learning processes. Therefore, this study investigated the hypothesis that learning mechanisms involving integrated emotional, psychological, and intellectual processes can be used by students to improve academic performance.

Relevant Variables

A major assumption of this investigation was that many college students have limited understanding of the relationship between right and left brain functioning, and their impacts and influences on learning. Consequently, students are under utilizing their abilities to learn. Increasing their understanding of such functioning should

be associated with higher academic achievement. Therefore, grade point average (GPA) was one variable investigated in this study. In addition, increased understanding should improve (i.e., make more positive) their academic orientations. Therefore, test-taking behaviors to prevent blocking and anxiety, techniques to improve listening and absorption in the classroom, techniques for reducing stress, techniques for inputting and accessing academic information, motivation to perform academically, ability to manage thought processes, and combining studying with other activities also were investigated. Gender-based and instruction format differences also were studied. Finally, because the activity was designed to be "enjoyable" for the participants, their attitudes about the training also were investigated.

Population

The University of Central Florida, as of Fall 1988, had a total undergraduate enrollment of 13,608. Total enrollment for undergraduate and postbaccalaureate students was 15,054. Of those 15,054 students, 7,729 (51%) were women and 7,325 (49%) were men. The College of Education had a total undergraduate enrollment of 2,328 (i.e., 15% of the UCF student population). The gender breakdown for the

College of Education was 21.4% male and 78.6% female. Therefore, the College of Education had a disproportionate ratio of females to males as compared to the University (UCF Office of Statistics, 1989).

In terms of age, UCF students, as of Fall 1988, ranged in age from 17 to 74, with the mean age being 26. The average SAT score for UCF students was 906. Their mean GPA was 2.80. In comparison, College of Education students had a mean SAT score of 918 and a mean GPA of 3.10. Mean SAT and GPA scores for the university and the College of Education were therefore comparable (UCF, Office of Statistics, 1989).

UCF, when compared with the other nine Florida state universities, was comparable in terms of first time enrollments and mean SAT scores. First time enrollments for UCF in the Fall of 1987-88 were 1,086 students. The mean SAT score for these students was 1003 (UCF Office of Statistics, 1989). For the other nine state universities, the average first-time enrollment during the same period was 1,820, and they had a mean SAT score of 1,114.

Nationally, the mean SAT score for 1986-87 was 906 (U.S. Department of Education, 1989). The mean SAT score for white students was 936, while black students had a mean SAT score of 728 (U.S. Department of Education, 1989). In

terms of mean age, the national average approximates UCF's. For the Fall of 1988, the mean age of students enrolled in institutions of higher education was 25 as compared to 26 for UCF students. More specifically, 5.2 million were under the age of 22, 3.1 million were 30 and over, 2 million were between 22 and 24, and 2 million were between the ages of 25 and 29 (U.S. Department of Education, 1989). UCF also approximates national averages in terms of gender. Nationally, of the total undergraduates enrolled, 46% were male and 54% were female (U.S. Department of Education, 1989).

Sampling Procedures

At the beginning of each term, UCF holds an orientation meeting for all incoming freshman students. Several orientation groups were addressed at the beginning of the Fall term 1988. This effort was to solicit their participation in the RMP program. Interested students were asked to provide names, phone numbers, and addresses. Students also were informed that they would, at a later date, receive an informed consent (Appendix A) form by mail to enable them to sign up for the program if they so desired.

Eighty-five freshman students initially indicated interest; of those, 28 students returned an informed

consent form. These 28 students were sent the APOQ (Appendix B). Fourteen returned the APOQ, and were subsequently sent videotapes of the RMP program by mail. Ten students viewed tapes and returned the program evaluation form (Appendix C).

Due to the attrition rate, additional subjects were sought. Juniors majoring in elementary education enrolled in "Classroom Learning Principles" during the Fall term were made available by the course instructor. Nineteen students in the class agreed to participate, and 17 actually viewed the videotapes. Therefore, the 10 freshman students and 17 juniors comprised experimental group one.

Control Group One also was obtained from the College of Education. They were enrolled in another section of "Classroom Learning Principles" during the Fall semester. The students were informed as to the nature of the research, and it was specified that participation involved being in the delayed control group, which required them only to complete the APOQ pre- and posttest, as well as allow access to their GPAs. All students agreed to participate.

Experimental Group Two also was obtained from College of Education students enrolled in "Classroom Learning Principles." These students also were primarily juniors

majoring in elementary education. This group, in contrast to Experimental Group One, was asked to participate as part of their classroom instruction (i.e., the program would be presented during regularly scheduled class). All students agreed to participate. This class met during Spring semester 1989.

Control Group Two was obtained from the same instructor as for Control Group One, as well as in the same manner. Students were enrolled in "Classroom Learning Principles" during the Spring semester 1989 and they were elementary education majors in the College of Education.

Resultant Sample

The following diagram contains the academic majors of the two control and two experimental groups:

	Experimental Group 1	Control Group 1	Experimental Group 2	Control Group 2	Total
Math	0	1	4	3	8
Science	2	2	1	2	7
Elementary	7	12	15	14	48
Soc. Science	1	1	2	0	4
Exc. Child	1	0	1	1	3
Education	0	0	2	0	2
Eng/Lang Arts	2	1	1	2	6
Physical Ed.	0	1	0	1	2
Lib. Studies	4	3	1	2	10
Communication	2	0	0	0	2
Psychology	2	0	0	0	2
Art	1	0	0	0	1
Special Ed.	1	0	0	0	1
TOTAL	23	21	27	25	96

In terms of major, Experimental Group One was comparable to Control Group One in that the majority for both groups were elementary education majors. The primary difference between the two groups occurred for the freshmen in Experimental Group One. Of the six subjects who were freshman, three were liberal studies majors, two were psychology majors, one was an art major, and one was a communication major. Experimental Group Two and Control Group Two were comparable in terms of academic majors.

SAT, age, gender, and academic level data for the participants were as follows:

	<u>Exp. Grp 1</u>		<u>Con. Grp 1</u>		<u>Exp. Grp 2</u>		<u>Con. Grp 2</u>	
	Men	Women	Men	Women	Men	Women	Men	Women
	n=6	n=18	n=3	n=18	n=4	n=23	n=5	n=20
Average SAT	946	813	816	895	0	854	960	904
Average Age	27.3	27.4	20.6	25.2	32	24.4	21.8	23.5
Freshman	2	4	0	0	0	0	0	0
Sophomore	0	0	0	0	0	0	1	11
Senior	0	3	1	0	1	2	1	0
Postbac	4	2	0	0	0	3	0	2

In terms of age and SAT scores, Experimental Group One and Control Group One were similar. Academic level, however, varied between groups. The majority of students in Control

Group One were juniors (20 of 21), whereas in Experimental Group One only 8 of 24 were juniors. Experimental Group Two and Control Group Two were similar in terms of age and SAT scores. Experimental Group Two and Control Group Two academic levels also were more comparable than among the other groups. Twenty-one of the 27 subjects in Experimental Group Two were juniors. In Control Group Two, 10 of the 22 subjects were juniors. However, 12 of the remaining 14 were sophomores.

In regards to gender, Experimental Group One had twice as many men as Control Group One. However, the number of women in both groups was equal. Experimental Group Two was comparable to Control Group Two in terms of gender. Experimental group Two consisted of four men and 25 women while Control Group Two consisted of five men and 20 women.

In all four groups, the race most frequently represented was white; Control Group One had one black female and Control Group Two had two black females.

The characteristics of the total resultant sample were as follows:

Avg. SAT	875
Avg. Age	25.1
Avg. GPA	2.83

Freshman	6
Sophomore	12
Junior	60
Senior	8
Postbaccalaureate	11
Black	2
White	95
Male	18
Female	79

The resultant sample approximated the UCF population in regards to gender (18% compared to 21.4%), age (25.1 compared to 26) and mean SAT score (875.4 compared to 906). Therefore, the participants were judged to be representative of the student population at UCF.

Descriptions of the Instruments Developed for the Study

The instruments employed in this study included a Program Evaluation Questionnaire (PEQ) developed by this researcher, the students' grade-point averages (GPA), and the Academic Performance Orientation Questionnaire (APOQ), also developed by this researcher. The PEQ was used to assess students' perceptions of the program and its effectiveness as a medium of instruction in the subject area. GPA was used as a measure to determine if

significant academic performance change occurred as a result of students' participation in the program. The APOQ also was used to determine whether change in academic behavior and orientation occurred as a result of participation in the program.

Grade point average is a standard system of grading used nationwide among universities. Even though different classes have differing degrees of difficulty, not to mention different standards for determining grades earned, GPA is an appropriate measure because of its acceptance as a standard indicator of academic performance. The program had as one of its goals getting students motivated to achieve. Therefore, differing levels of difficulty of the courses were not relatively substantive because students could improve their GPAs in relative ways.

The program evaluation questionnaire developed by the researcher had never been used before because it was specifically designed for this study. As such, there are no validity or reliability data available for it. However, the PEQ was appropriate for use in the data collection because it tapped the students' global attitudes about the program.

The PEQ, in order to assess students' perceptions of the program and its effectiveness as a medium of

instruction in the subject area, addressed specific categories pertaining to the clarity of the content, presentation of the information, use of audiovisual resources, program format, impact on their thinking, maintenance of interest, fulfillment of expectations, and presenter's style. Additionally, experimental group two was asked to include any relevant comments. These questions were deemed appropriate and were selected for use because they were focused upon the elements considered most important in order for the program to have had the impact intended.

The scores obtained from the APOQ were scaled scores that tracked the techniques and ideas put forth in the RMP workshop. High scores on each of the subscales indicated more frequent use of the techniques in that particular category by the student. The stems were all stated in a way that required students to respond with numerically higher responses if they used those techniques more frequently.

The subscales developed for the APOQ were consistent with the content of the RMP workshop, as well as with the theoretical approach underlying this study. Each question within the subscales captured a majority of the content covered by the workshop for that particular component.

More specifically, the subscale labeled "combining studying with other activities" addressed the practical applications given in regards to the conscious and unconscious (i.e., left and right hemispheres of the brain) being able to process information separately and how the activation of one hemisphere facilitates the activity of the other.

The statements in the category of "test-taking behaviors to reduce blocking and anxiety" focused specifically on ways to access the unconscious while taking tests. These statements tapped techniques taught in the RMP workshop that reduced the role of the conscious hemisphere so it would not interfere with how the unconscious hemisphere functioned.

The statements in the subscale entitled "motivation techniques" addressed techniques presented in the workshop teaching Lozanov rules for joy, absence of tension, unity of conscious and unconscious and their integral activity, and ways of helping students facilitate holistic functioning in regards to emotional, physical, and intellectual needs.

The statements in the category "inputting and accessing information" covered the material presented in the RMP workshop that taught students how to encode and input information into long-term memory or the unconscious via

the conscious mind. At the same time, it assessed techniques taught for use (by the conscious) to facilitate gaining access to the material placed into the unconscious.

"Stress reduction techniques," in the fifth subscale, measured how well students were able to benefit from stress reduction techniques taught in the workshop. More specifically, these statements focused on students' abilities to play with "metalevels" (or in other words reframe their perceptions and interpretations of events or situations to facilitate optimal functioning as opposed to parasitic psychological and physiological activity).

The sixth subscale was entitled "in-class techniques to improve listening and absorption." These statements addressed the techniques taught which facilitated the "switching on" of the unconscious while in the classroom, specifically to improve absorption and retention.

The seventh and final subscale was entitled "management of thought processes." This was a general category in that it captured a variety of techniques given to the students to improve their understandings and awareness of the relationship between the conscious and unconscious in an effort to give them more control over this relationship.

The APOQ was designed to correspond to the material presented in the program. It was a self-report

questionnaire that measured the frequency with which students engaged in certain academic behaviors covered by the program. In as much as the APOQ was created by the researcher, no normative or reliability data existed. The APOQ was designed to have content validity although its content validity was not established empirically.

The use of this instrument with college students was deemed appropriate because it was specifically developed to address various challenges faced by college students in their academic endeavors. This held true for the design of the RMP workshop as well. The various categories or subscales of the APOQ were considered to be high priority behaviors and skills needed by students to effectively and successfully complete their undergraduate coursework.

Description of Research Design

This study employed a control-group pretest-posttest design (Kerlinger, 1973), represented as follows:

Tx 1	0-----XO-----0-----0-----0
C 1	0-----0-----0-----0-----0
Tx 2	-----OX--X--X--XO-----0-----0-----0
C 2	0-----0-----0-----0-----0

In order to assess the treatment effects on students' academic behaviors, 17 weeks were allotted between the

first and third observations (administration and readministration of the APOQ) for treatment Group One and Control Group One. The same period between the first and third observations was allotted for Control Group One for comparison.

To assess the treatment effects on students' academic behaviors for Treatment Group Two and Control Group Two, 11 weeks were allotted between the first and third observations. Experimental Group One and Control Group One were allotted more time because their treatment was administered at the end of the Fall term and Experimental Group Two and Control Group Two were treated at the beginning of the Spring term.

To assess the treatment effect on students' GPAs, comparisons were made between students' overall GPA prior to participation and their GPAs for the semester immediately following the program. The same was done for the control group.

A questionnaire was used to assess students' attitudes toward the program. Therefore, in order to evaluate differences between Treatment Group One and Treatment Group Two, analyses were made of the responses on the questionnaire, as well as for the APOQ and GPA.

Both control groups were "delayed control" groups. The two control groups were provided access to the treatment at a later date.

Description of the Research Procedure

Because of the relatively few students solicited from the Fall orientation provided for incoming freshman, it was necessary to secure additional volunteers for the first experimental group. Accordingly, an adjunct professor was approached regarding using students in her classes. The instructor agreed to allow students enrolled in both the Fall and Spring terms to be solicited. The freshman students obtained through the orientation program were included with the students in the Fall term course to form Treatment Group One.

In order to obtain a comparable control group (One), another instructor was approached who taught the same course. This instructor also agreed to solicitation of students for Control Group One.

Experimental Group One was selected to be the self-directed treatment group because it was obtained at the end of the Fall term and it was not feasible to use class time due to the classroom activities to be accomplished.

Control Group Two was secured in the same manner as for Control Group One. Those students enrolled in the same course for Spring term with the same instructor were selected.

The treatment format varied for Experimental Group One and Experimental Group Two. This was done to investigate differences in treatment effects due to differences in instruction format. Experimental Group Two was obtained from classes of the same instructor as for Experimental Group One. Experimental Group Two was designated as the instructor-assisted treatment group.

Description of the Treatment Procedures

The treatment program for the self-directed group (i.e., Experimental Group One) lasted a total of 3 hours and 45 minutes. The videotaped program used is outlined here. The treatment program for the instructor-assisted group lasted a total of seven hours and was scheduled over three weeks.

The videotaped program, although designed in part to facilitate left hemispheric activity, more importantly was designed both in form and content primarily to facilitate right hemispheric activity. This was accomplished by utilizing Erickson's "indirect forms of communication" (discussed on page 51) in each of the segments outlined

below. For example, in Tape One, Section B, the participants are introduced to the notion that a relationship exists between the conscious and unconscious mind. Once the concept is established, the viewer is then vulnerable to an indirect form of communication called the conscious-unconscious double-bind which depotentiates left hemispheric activity and facilitates right hemispheric functioning. Additionally, the script was written in a manner that interspersed the various indirect forms of communication described on pages 51 and 52 of this report.

Experimental Group

Tape One

A. Introduction to Program

(Objective: To enable students to understand how conscious and unconscious processes interrelate with one another and academic performance.)

1. Introduction to the concept of a relationship between the conscious and unconscious.
2. Establishment of the intent of the program.

B. Discussion of research demonstrating relationships between the conscious and unconscious.

(Objective: To provide students with practical applications that enable them to learn with the absence of tension, with joy, and to avoid blocking or test anxiety.)

1. Experiment demonstrating how the conscious can repress the response of the unconscious.
2. Experiment demonstrating how the conscious can function independently of the unconscious and how the unconscious can influence behavior without the conscious knowing it.
3. Discussion of experiment one and the practical applications thereof.
4. Discussion of experiment two and the practical applications thereof.
5. Demonstration of experiment two while summarizing and expanding Part B.

C. Further delineation of man's quality; more specifically, the roles of "good" and "evil" and instinct vs. social responsibility.

(Objective: To use metaphors and analogies (unconscious processes) to enable students to understand how instinctual processes and social convention interrelate to facilitate academic performance.)

1. Presentation of Star Trek video where Captain Kirk is split into two people by the transporter - one is his good half, the other his evil half.

2. Discussion of the Star Trek video linking it to the relationship between the conscious and unconscious, man's quality and student life.
3. Presentation of videotape segment from the series The Mind which reiterates Part C.

D. Presentation of roles of the conscious and unconscious in learning and teaching.

(Objective: To enable students, by way of indirect associative focusing, dissociation and multiple levels of meaning, to understand the roles of the conscious and unconscious in learning and studying.)

1. Presentation of videotape segments from Star Wars dealing with Luke Skywalker's training by Yoda.
2. Discussion of the roles of the conscious and unconscious as demonstrated by the Star Wars segments.
3. Presentation of interview with Peggy Lee whose testimony reinforces the Star Wars segments.
4. Discussion linking segments from Star Wars with the Peggy Lee interview.
5. Presentation of comments from heavyweight champion Mike Tyson's trainer about frequent practice to improve performance.

6. Presentation of interview with a lady discussing the unconscious and how it performs according to its programming.
7. Discussion regarding the programming of the unconscious as it pertains to studying and academic performance.
8. Presentation of videotape segments from the movie Karate Kid to further demonstrate the roles of the conscious and unconscious in the learning process.
9. Presentation of summary and metaphors to appeal to the unconscious in regards to motivation and the use of unconscious.

Tape Two

A. Accessing the unconscious.

(Objective: To teach students directly and indirectly [i.e., consciously and unconsciously] techniques for accessing academic material and inner resources both consciously and unconsciously.)

1. Presentation of videotape segments from the movie Iron Eagle.
2. Discussion explaining how the segments demonstrate various accessing processes.

3. Presentation of metaphors to appeal to the unconscious which relate to accessing ways that the unconscious uses what it learns, and the power of inner resources - accessing psychological, physical and emotional inner resources.
 4. Presentation of videotape segments from the series The Mind dealing with the power of the placebo or belief.
 5. Discussion elaborating and summarizing the preceding clip.
 6. Presentation of videotape segments from the movie Over the Top demonstrating kinesthetic accessing.
 7. Presentation of summary of Part A, Tape Two up to this point as applied to performance.
 8. Presentation of videotape segments from the program Bodywatching about a blind sculptor.
 9. Discussion explaining the sculptor's ability to see via the accessing paradigm.
 10. Presentation of metaphors appealing to the unconscious to discuss accessing, symbols and the unconscious, intonation and the use of internal and external dialogue.
- B. Presentation of videotape segments from the series The Mind regarding stress.

(Objective: To enable students to understand how stress affects conscious and unconscious mental processes in terms of academic performance, and to teach students ways of taking conscious control of the stress reaction.)

1. Discussion on how to use the unconscious to deal with stress.
2. The role of control in stress.
3. Destructive vs. constructive stress.
4. The role of interpretations of events and stress.
5. Metaphors appealing to the unconscious.

C. Closing remarks.

(Objective: To future-pace the suggestions given in the program in order to enhance the likelihood of their being used in the future.)

Both groups viewed the videotapes in their entirety.

Experimental Group One deviated from Experimental Group Two in that two weeks were allotted to view tapes. Each subject in Experimental Group One was given a copy of the videotaped program, which the subject could elect to keep. Therefore, Experimental Group One (the self-directed group) students could pace the program according to their own needs. The possibility also existed for repeated viewings on their part. Experimental Group One did not have the

opportunity to ask questions over the program content, nor were they given additional clarification or summaries.

Experimental Group Two (the instructor-assisted group) students were not able to pace the viewing of the videotapes. No one in this group was given a copy of the videotaped program; therefore, they could not review the program if desired.

Experimental Group Two also deviated from Experimental Group One in that a review and question-and-answer period of the content was provided after section B-2 was concluded. This group also was provided with reviews and a question-and-answer period at the beginning and end of each session on January 18, 1989, January 25, 1989, and February 1, 1989. Session one was terminated at the conclusion of tape one (D-9). In session one and session two no breaks were given. Each session was approximately two hours and fifteen minutes in duration.

During the third and final session, tape two of the program was viewed in its entirety. One hour and fifty minutes into the session, a short break was allowed. This occurred at point B-1 on tape two. The group reconvened after approximately 15 minutes for the conclusion of the program.

Description of Assessment Procedures

Treatment Group One was administered the APOQ for the first observation on December 1, 1988. At that time, students also were issued the videotaped program. Two weeks later, on December 14, 1988, the instructor for the course issued the program evaluation questionnaire. The third observation, readministration of the APOQ, was done on March 27, 1989. Because the posttest was mailed to these students (which required them to return mail the questionnaire), two weeks were allowed for the return. Those received after April 14, 1989, were not used in the study.

Control Group One was first given the APOQ on November 27, 1988. Control Group One students, like those in Experimental Group One, were issued the posttest by mail because they were no longer meeting for that class. It was mailed at the same time as for Experimental Group One, and was to be returned by April 4, 1989. The second (posttest) administration of the APOQ was on April 23, 1989.

Treatment Group Two first completed the APOQ on January 18, 1989. At that same time, the videotaped (treatment) program began. It was divided into three segments, one per week for the next three weeks. The three segments were viewed on January 18, January 25, and February 1, 1989, respectively.

Upon completion of the third segment on February 1, 1989, Treatment Group Two completed the program evaluation questionnaire. The readministration of the APOQ occurred on April 5, 1989. Because this class was still meeting, the posttest was given in the class.

Control Group Two was first given the APOQ on January 17, 1989. The APOQ was readministered to them on April 4, 1989.

UCF grade point averages for students in all the groups were acquired from the office of the registrar on May 30, 1989. Students' GPAs for Spring semester were obtained from the office of the UCF registrar on June 3, 1989.

Data obtained in this study included students' GPAs, scores on the APOQ, and the program evaluation questionnaire responses. Range of pre GPAs was from 1.00 to 3.80. The APOQ utilized a self-appraisal rating scale with scores ranging from 1 to 4 for each item, with a response of one indicating that the particular behavior engaged in by the student was rarely used. A response of two meant that the student engaged in that particular behavior occasionally, while three indicated that behavior occurred often, and four most of the time (i.e., very frequently). The APOQ yielded seven subscales as well as a "total" score. The subscales measured students' behaviors

in the following areas: Combining studying with another activity (five items), techniques to improve listening and absorption in the classroom (four items), test-taking behaviors to prevent blocking, anxiety, etc. (six items), stress reduction techniques (seven items), techniques for inputting and accessing academic information (nine items), motivation techniques (nine items), and management of thought processes (six items).

The program evaluation questionnaire was used to assess students' attitudes towards the program in the following categories: clarity of content, presentation of information, use of audiovisual resources, program format, impact on their thinking, maintenance of interest, fulfillment of expectations and the presenter's style. The program evaluation questionnaire utilized a global rating scale with scores ranging from one to five. A rating of one indicated that the particular aspect of the program was poor and a score of five represented the other extreme, i.e., excellent.

Description of Research Participant

The researcher has a Master's degree in Guidance and Counseling and is an Ed.D. candidate in Student Personnel Services in Higher Education at the University of Florida. Additionally, the author was licensed by the State of

Florida to practice marriage and family therapy and mental health counseling. He was a student affiliate member of the American Society of Clinical Hypnosis. He has completed successfully courses in assessment and research, and has had experience in the use and administration of instruments such as those used in this study.

Description of Data Analyses

Data analyses involved the following statistical procedures in order to test each of the hypotheses presented in Chapter I. For each of the first six hypotheses (and their related subhypotheses), analyses of covariance (ANCOVA) were computed. The covariate for each of these analyses was pre-GPA. For Hypotheses One, Two, Four, and Five, analyses were done for combined treatment groups, as well as for combined control groups. The two treatment and two control groups for these four hypotheses were combined because the focus was upon treatment vs. no treatment difference in GPA as opposed to analysis of differential treatment effects. Similarly, analyses for Hypothesis Four were focused upon overall differences in the APOQ responses, and not treatment format differences. Analyses for Hypotheses Five also centered on overall gender-based differences, and not treatment format differences. However, the data analyses for Hypotheses

Three and Six (and their related subhypotheses) did focus upon differences in format as related to GPA and APOQ scores respectively. Therefore, Treatment Groups One and Two were addressed separately in these analyses. The dependent variable for Hypotheses One, Two, and Three was post-treatment GPA. The dependent variable for Hypotheses Four, Five, and Six was APOQ total score (i.e., overall academic performance orientation) and the dependent variables for the associated subhypotheses were the respective APOQ subscale scores. For Hypothesis Seven, an analysis of variance was computed to investigate significance of differences in responses to each of the items of the PEQ between the two treatment groups.

Methodological Limitations

Although motivation may have varied across students, there should not have been any systematic bias because students were not selected on that basis (i.e., not on the basis of motivation level). Relatedly, the difficulty level of courses students enrolled in may have varied. However, this difficulty should have been minimized through relatively unbiased selection of participants. Retaining students in the treatment program was not a problem because participants were in regularly scheduled classes. However, there was some difficulty in acquiring posttest APOQ data

for first students because they had to return the posttest data by mail after an approximately 17-week interval. This difficulty was not severe, however, because most of the students completed the task. It also should be acknowledged that limitations existed because of the use of non-equivalent groups and the use of locally developed instruments with relatively unestablished validity and reliability.

CHAPTER IV

RESULTS

Shown in Table 1 are the pre- and post-GPA means and standard deviations for the combined Treatment and combined Control Groups. Although there is a post-treatment increase in mean GPA for both groups, Table 2 shows that the post-GPAs of undergraduate students did not differ as a result of participation in the RMP Workshop.

TABLE 1
TREATMENT AND CONTROL GROUP GPA MEANS AND
STANDARD DEVIATIONS

GROUP	PRE			POST		
	GRADE MEAN	POINT AVERAGE S.D.	N=	GRADE MEAN	POINT AVERAGE S.D.	N=
Treatment	2.88	.55	41	3.26	.60	41
Control	2.84	.54	46	3.07	.77	46

TABLE 2
ANALYSIS OF COVARIANCE OF GPA MEANS BETWEEN
TREATMENT AND CONTROL GROUP PARTICIPANTS
USING PRE-GPA AS THE COVARIATE

COMPARISON	SUM OF SQUARES	DF	MEAN SQUARE	F
Experimental/Control	.53	1	.53	1.40

Shown in Table 3 are the pre- and post-GPA means and standard deviations for the combined treatment group.

TABLE 3
TREATMENT GROUP GPA MEANS AND STANDARD
DEVIATIONS BY GENDER

GENDER	PRE			POST		
	<u>GRADE</u>	<u>POINT</u>	<u>AVERAGE</u>	<u>GRADE</u>	<u>POINT</u>	<u>AVERAGE</u>
	MEAN	S.D.	N=	MEAN	S.D.	N=
Male	2.58	.70	9	3.31	.48	9
Female	2.97	.48	32	3.24	.64	32

Shown in Table 4 are the results of the ANCOVA for hypothesis Two. Hypothesis Two was not rejected because there were no gender-based differences in GPA among those who participated in the RMP Workshop.

TABLE 4
ANALYSIS OF COVARIANCE OF GPA MEANS BY GENDER
AMONG TREATMENT GROUP PARTICIPANTS
USING PRE-GPA AS THE COVARIATE

COMPARISON	SUM OF SQUARES	DF	MEAN SQUARE	F
Gender Differences	.43	1	.43	1.06

Shown in Table 5 are the GPA means and standard deviations for the two instruction and control groups. The ANCOVA results shown in Table 6 are for analysis on the

basis of instruction format. The third hypothesis was not rejected because there was no instruction format difference in GPA among those who participated in RMP.

TABLE 5
INSTRUCTION AND CONTROL GROUP GPA MEANS
STANDARD DEVIATIONS

INSTRUCTION FORMAT	PRE			POST		
	GRADE POINT AVERAGE			GRADE POINT AVERAGE		
	MEAN	S.D.	N=	MEAN	S.D.	N=
Self-directed	2.94	.63	20	3.28	.69	20
Instr-Assist	2.82	.47	21	3.23	.52	21

TABLE 6
ANALYSIS OF COVARIANCE OF GPA MEANS AMONG THE SELF-DIRECTED AND INSTRUCTOR-ASSISTED GROUP PARTICIPANTS USING PRE-GPA AS THE COVARIATE

COMPARISON	SUM OF SQUARES	DF	MEAN SQUARE	F
Self-Directed/ Instructor-Assisted	.01	1	.01	.06

Shown in Table 7 are the pre- and post-APOQ subscale and total score means and standard deviations for the combined Experimental Groups and the combined Control Groups. Shown in Table 8 are the results of the ANCOVAs for these data. Hypothesis Four and subhypotheses 4a, 4c, and 4g were rejected based on these results.

TABLE 7

APOQ MEANS AND STANDARD DEVIATIONS FOR THE
EXPERIMENTAL AND CONTROL GROUPS

	PRE			POST	
	MEAN	S.D.	N=	MEAN	S.D.
Experimental Group					
Total Score	117.20	9.97	41	125.34	15.47
Test-taking	12.22	1.92	41	13.98	2.67
Comb. Act	8.95	2.18	41	10.24	2.89
Stress Red.	18.46	2.57	41	20.15	3.01
Access Tech.	22.98	4.94	41	25.20	5.27
Motivation	25.39	3.34	41	26.19	3.67
Though Cont.	15.73	2.26	41	16.71	2.79
In-class Tech.	13.46	1.78	41	12.88	1.90
Control Group					
Total Score	116.09	13.25	46	116.87	15.47
Test-taking	11.91	2.18	46	12.15	2.37
Comb. Act	9.06	1.92	46	9.19	1.56
Stress Red.	18.72	3.45	46	18.52	3.30
Access Tech.	23.48	4.90	46	24.02	4.40
Motivation	24.37	3.67	46	24.48	3.75
Though Cont.	15.33	2.44	46	15.52	2.73
In-class Tech.	13.22	2.05	46	12.98	2.12

TABLE 8

ANALYSES OF COVARIANCE OF APOQ MEANS AMONG
TREATMENT AND CONTROL GROUP PARTICIPANTS USING
PRE-TEST SCORES AS COVARIATES

VARIABLE	SUM OF SQUARES	DF	MEAN SQUARE	F
Test-Taking Behavior	54.841	1	54.841	13.056*
In-class Techniques	1.284	1	1.284	.450
Stress Reduction	67.561	1	67.561	9.434*
Accessing Techniques	47.911	1	47.911	3.426
Motivation	20.321	1	20.321	2.762
Thought Control	18.490	1	18.490	3.405
Combining Activities	27.708	1	27.708	9.131*
Total APOQ	1242.036	1	1242.036	43.328*

* $p < .05$

Shown in Table 9 are the results of the ANCOVA for Hypothesis Five and its associated subhypotheses. There were no gender-based differences for those who participated in the RMP Workshop.

TABLE 9

ANALYSES OF COVARIANCE OF APOQ MEANS AMONG
EXPERIMENTAL GROUP PARTICIPANTS BY GENDER
USING PRE-TEST SCORES AS COVARIATES

SCALE	SUM OF SQUARES	DF	MEAN SQUARE	F
Total Score	68.55	1	68.55	1.50
Test-taking	1.43	1	1.43	.68
In-class Techniques	.00	1	.00	.00
Stress Reduction	.15	1	.15	.01
Accessing Techniques	.92	1	.92	.07
Motivation	10.03	1	10.03	1.99
Thought Control	7.88	1	7.88	3.53
Combining Act.	.33	1	.33	.26

Shown in Tables 10 are the pre- and post-APOQ means and standard deviations for both Treatment Groups and both Control Groups for each scale. Provided in Table 11 are the results of the ANCOVAs of those means to determine if there were instructional format differences in APOQ scores. Hypothesis Six and subhypotheses 6b, 6c, 6d, and 6f were rejected based on these results.

TABLE 10
APOQ MEANS AND STANDARD DEVIATIONS BY
INSTRUCTION FORMAT AND CONTROL GROUP

GROUP	MEAN	PRE S.D.	N=	MEAN	POST S.D.
Total APOQ:					
Self-directed	117.55	10.74	20	131.05	17.52
Instr-Assist	116.86	9.44	21	119.90	11.11
Control 1	118.00	12.83	21	117.38	14.01
Control 2	114.48	13.64	25	116.44	11.59
Test-Taking Techniques:					
Self-directed	12.55	2.09	20	14.45	2.80
Instr-Assist	11.90	1.73	21	13.52	2.52
Control 1	11.95	2.69	21	12.09	3.11
Control 2	11.88	1.69	25	12.20	1.55
In-Class Techniques:					
Self-directed	13.80	1.77	20	13.60	1.50
Instr-Assist	13.14	1.77	21	12.19	2.02

TABLE 10 (CONTINUED)

Control 1	13.67	1.90	21	13.52	2.02
Control 2	12.84	2.13	25	12.52	2.14
Stress Reduction Techniques:					
Self-directed	18.05	2.56	20	21.40	2.99
Instr-Assist	18.86	2.57	21	18.95	2.56
Control 1	18.67	3.10	21	18.24	3.14
Control 2	18.76	3.78	25	18.76	3.47
Accessing Techniques:					
Self-directed	22.60	5.01	20	26.30	5.62
Instr-Assist	23.33	4.97	21	24.14	4.82
Control 1	24.24	5.54	21	24.24	4.65
Control 2	22.84	4.30	25	23.84	4.27
Motivation:					
Self-directed	25.85	3.13	20	27.15	3.59
Instr-Assist	24.95	3.54	21	25.29	3.59
Control 1	24.52	3.29	21	24.62	4.08
Control 2	24.24	4.05	25	24.36	3.53
Thought Control Techniques:					
Self-directed	15.90	2.55	20	17.95	3.07
Instr-Assist	15.57	1.99	21	15.52	1.91
Control 1	15.90	2.59	21	15.86	3.87
Control 2	14.84	2.25	25	15.24	2.09

TABLE 10 (CONTINUED)

Combining Activities:

Self-directed	8.8	2.09	20	10.2	3.14
Instr-Assist	9.09	2.30	21	10.29	2.70
Control 1	9.05	2.06	21	8.01	1.81
Control 2	9.08	1.85	25	9.52	1.26

TABLE 11

ANALYSES OF COVARIANCE OF APOQ MEANS AMONG THE SELF-DIRECTED AND INSTRUCTOR-ASSISTED GROUP PARTICIPANTS USING PRETEST SCORES AS COVARIATES

VARIABLE	SUM OF SQUARES	DF	MEAN SQUARE	F
Test-Taking Behavior	2.77	1	2.77	.48
In-class Techniques	14.11	1	14.11	4.83*
Stress Reduction	73.80	1	73.80	10.28*
Accessing Techniques	71.43	1	71.43	4.31*
Motivation	15.49	1	15.49	2.02
Thought Control	52.27	1	52.27	9.77*
Combining Activities	.36	1	.33	.07
Total APOQ	1137.39	1	1137.39	8.14*

* $p < .05$

Shown in Table 12 are the means and standard deviations for the OVERALL program evaluations for the RMP participants. Reported in Table 13 are the results of ANOVAs for the overall program evaluation and for each variable within the evaluation. Based on these results, Hypothesis Seven was not rejected.

TABLE 12

RMP PARTICIPANTS' PROGRAM EVALUATION MEANS AND
STANDARD DEVIATIONS BY INSTRUCTION FORMAT

GROUP	PROGRAM EVALUATION	
	MEAN	S.D.
Self-Directed	3.69	.74
Instructor-Assisted	3.65	.73

TABLE 13

ANALYSES OF VARIANCE OF PROGRAM EVALUATION MEANS
AMONG SELF-DIRECTED AND INSTRUCTOR-ASSISTED
GROUP PARTICIPANTS

VARIABLE	SUM OF SQUARES	DF	MEAN SQUARE	F
Clarity of Content	.24	1	.24	.31
Presentation of Information	.81	1	.81	.90
Use of Audiovisuals	1.61	1	1.61	1.62
Workshop Format	1.32	1	1.32	1.57
Impact on Thinking	.29	1	.29	.24
Maintenance of Interest	1.84	1	1.84	1.44
Fulfillment of Expectations	.25	1	.25	.23
Presenter's Style	1.08	1	1.08	1.69
Total Evaluation	27.27	1	27.274	.68

CHAPTER V

DISCUSSION

Following is a discussion of the results of the study and data analyses in terms of generalizability, hypotheses testing, and conclusions. Additionally, implications and recommendations for educators and student personnel workers in terms of theory, research, training and practice are presented.

Generalizability

As stated in Chapter III, UCF is similar to other state universities in Florida in terms of students' mean SAT scores and mean GPAs. Also, UCF is close to the national average in regard to ages of students. As such, the results of this study extend beyond the UCF campus, but with some limitations.

Even though the sample used in this study consisted primarily of females and college of education students, the generalizability of the results extends beyond gender and college. Among those results found to be significant, gender was not a factor. Also, the sample consisted of students having a variety of other majors such as psychology, music, and other social sciences.

Finally, UCF is typical of other universities in terms of number of first time enrollments per semester and full-time students residing on campus. As such, the results of this study may be applicable to other, similar types of institutions.

Results of Hypotheses Testing

The first hypothesis evaluated was in regard to students' GPAs not differing as a result of the RMP workshop. From the results of the data analyses, it was evident there was no significant change in GPA attributable to the RMP workshops.

Shown in the results of the data analyses for the second hypothesis were no significant gender-based differences among those who participated in the RMP workshop. Thus males and females responded to and were impacted by the RMP workshops equally.

No significant difference was found in terms of GPA means based on instructional format (i.e., the third and sixth hypotheses) differences. Therefore, the two instructional formats had equivalent impacts.

The fourth hypothesis addressed differences in total scores on the APOQ. A significant difference was found, with students who participated in the RMP workshops having more favorable academic performance orientation.

The subhypotheses for the fourth hypothesis addressed specific behaviors related to academic performance. Significant differences were found between the combined experimental and control groups for some subscales. Significant differences were found for test taking-behaviors, stress reduction techniques and combining activities, but not for in-class techniques, accessing techniques, motivation, or thought control. Students who participated in the RMP workshops had more favorable orientations for the respective statistically significant differences.

The fifth hypothesis and its associated subhypotheses focused upon gender-based differences in APOQ scores. Males and females who participated in the RMP workshops did not differ in their academic performance orientations.

A significant difference was found for the sixth hypothesis, which addressed treatment group format. The treatment format in which students were self-directed was more effective in increasing overall academic performance orientation than was the instructor-assisted format. Significant differences also were found for four of the related subhypotheses, including those for in-class techniques, stress reduction techniques, accessing techniques, and thought control techniques.

Finally, the seventh hypothesis focused on post-workshop evaluations by the experimental groups. No significant differences were found in the post-workshop evaluations on the basis of instructional format.

Conclusions

Indicated in the results of the data analyses for the various hypotheses was that the RMP workshop did not increase GPAs but did increase a few academic performance orientation behaviors. Thus, although the workshops were not successful in achieving the primary objective, they were effective in bringing about some change in how the students approached various aspects of their academically-orientated behaviors.

Because instructional format differences were found for in-class techniques, stress reduction techniques, accessing techniques, thought-control techniques, and overall academic performance orientation, the programs did impact differentially; the self-directed instructional format was more effective than the instructor-assisted format.

In regards to the program evaluations (which were provided only by the Experimental Groups), there were no significant differences between the two treatment groups. However, both groups evaluated the RMP workshops favorably. Additional support was indicated in some of the comments

written by the students who participated in the program. One student wrote, "I have found that the information you presented has already had a positive effect on my performance on tests and presentations in classes." Another wrote, "I used some of your techniques on a test last week and I made a 93. So, it does work." Both of these students were in the instructor-assisted group. Similarly, a student from the self-directed group wrote, "I would like to congratulate you on your work with this program. It was very professional and helped me in many ways." A second wrote, "I gained so much from them [i.e., the RMP program activities] and I intend to view them occasionally to refresh my memory!"

Implications

This program was based on the idea that holistic learning processes could be taught to students thus enabling them to increase traditional academic performance indicators (i.e., GPA) and to improve attitudes and behaviors associated with effective academic performance. Utilized was a holistic program to teach students a variety of study skills. The program did not produce significant changes in students' GPAs and therefore does not hold promise for short-term impact on students' GPAs. However, it did yield some effectiveness in increasing academic

performance-related behaviors taught in the program. The program was designed not only to educate the logical, rational, and digital left hemisphere of the brain, but also the metaphorical, non-linear, and visual-spatial right hemisphere. Based on results from the APOQ, this holistic program was somewhat effective in teaching these behaviors. The results of the study therefore partially support the premise that learning processes can be taught to students utilizing a holistic approach, i.e., one that does not require them to read, write, or make substantial conscious effort.

In terms of research, the partial effectiveness of the program supports the need for further exploration. In as much as different instructional formats were used, further research is needed to clarify differences in effectiveness. Another needed area of investigation is evaluation of effectiveness based on whether the participants were involved voluntarily or involuntarily. In this study, subjects in both Experimental Groups were voluntary. However, the self-directed group was, in a way, "more" voluntary than the other group. All of the subjects in the self-directed group were drawn from larger pools (e.g., freshman orientation and an intact class) from which everyone did not participate. For example, of those

students volunteering from the freshman orientation group, 87 indicated initial interest, while only seven followed through to completion. The students volunteering from the intact class made up approximately one half the class. Students "volunteering" for the second Experimental Group did so as a class because the program was presented during class time. Thus, there were differences in the degrees of volunteering.

Additional factors needing further investigation include the effects day, pace, and opportunity to repeat the training might have on the results. Explorations of additional variations in instructional formats would provide further understandings of the impacts of the RMP workshop activity. For example, students in the instructor-assisted group participated in the program during regular class time, whereas the self-directed group students were at liberty to participate at their convenience. Likewise, the instructor-assisted group students participated at the discretion of the instructor in terms of how much they watched and for how long. The self-directed group, in contrast, had greater control over the pace.

Finally, opportunity for iteration of parts of the program was available to the self-directed group because

they were given copies of the training tapes. They had the option of returning them if they did not want to use them. Only five of the 21 returned them.

Above all else, needed is research of greater duration into the effects of the program on students' GPAs. It was proposed that the program would produce substantial GPA change within one semester. Although such changes were not found, participating students did report favorable changes in academic performance orientation. Therefore, research of greater duration might identify when, if ever, changes in academic behavior related orientation becomes manifest in GPA differences.

Another implication for research involves modifications of the program itself. Some students' feedback regarding the program was directed at its length. Most in the instructor-assisted group evaluated it as too long. Therefore, it appears the activity should be condensed so as to be more palatable to students. In terms of methodological limitations, further research should be done with equivalent groups. Similarly, use of instruments with known validities and reliabilities should be incorporated into future research.

There also are implications for professional practice from the results of this study. The program did change the

degree to which students used the techniques and skills taught in the program. Therefore, educators and student service personnel can be advised employ techniques that "speak the language of the unconscious mind." Through the use of metaphor, imagery, symbolism, conscious/unconscious disassociation and double-binds, various learning mechanisms can be activated and trained. Further "canned" programs using these techniques to teach could be effective.

The results of this study point student service personnel and educators in the direction of using techniques that facilitate unconscious learning processes. In effect, students can learn how to learn, and can do so through non-traditional techniques such as those in the RMP workshops. However, utilizing and learning the language of the unconscious so that it can be applied practically requires specialized training. Just understanding that the left brain works one way and the right brain another is not enough. Thus, student services personnel and other educators should be trained in these techniques so that they will have broader skills repertoires with which to work with students.

Recommendations

The most obvious recommendation evolving from the results of this study is that the RMP approach should not

be used if the goal is to bring about relatively immediate improvement in students' GPAs. Other, perhaps more traditional activities such as individual tutoring or specific skills training may be better suited to the achievement of that goal. However, the RMP approach is recommended if the goal is to enable students to develop more effective academic performance orientations.

It is also recommended that a program similar to the RMP be made available to students on a voluntary basis. Preliminary indications from this study favor a "high degree of voluntariness" on the part of the student. Allowing students to "be their own masters" in regards to how, when, and where they view the tapes seems to be an important variable in the effectiveness of the program. As such, it is recommended that students be able to participate in the program in ways in which they have much control over its use and implementation.

The self-directed group, which yielded the greatest positive differences, contained the widest range of students in terms of class levels. Therefore, it appears that students can benefit from the program at any point in the college experience. However, in order to produce benefits of the greatest duration and extent, it is recommended that the RMP activity be used early in the

freshman year where study habits are forming but not yet established. This schedule would give students opportunity to reuse the training as needed during the remaining years of their undergraduate careers.

Summary

The RMP program did not significantly impact the GPAs of the undergraduate students who participated and the primary desired outcome of the program was not realized. The RMP program did, however, impact students' orientations towards academic performance as measured by the APOQ. Furthermore, the self-directed format was superior to the instructor-assisted format in terms of effectiveness in getting students to learn what was contained in the program. Thus, the program did produce some results which are considered positive by most educators and student services personnel. Accordingly, educators and student services personnel should continue work on and with activities such as the RMP so as to broaden and enhance the services they provide to college students.

APPENDIX A
CONSENT FORM

Dear Student,

The purpose of this study is to determine the effectiveness of a technique specifically intended to help freshmen students at the University of Central Florida improve their academic performance. The technique involves helping students process information differently; in particular, making better use of the faculties of the right brain hemisphere.

Your participation in the study is voluntary and you are free to withdraw from it at any time. There are no psychological or physical risks anticipated for participants in the study. Also, there will not be reimbursement, monetary or otherwise, for participation in the study. However, your participation will provide useful information which can then be used to help other students like you.

Your signature below attests that you are voluntarily and willingly participating in the study, that you understand the conditions of participation as described herein, and that you give Mr. James Rini right of access to your cumulative and Fall semester grade point averages. Please note that the data accumulated in this study will be used for research purposes only.

Thank you for agreeing to participate. If you have any questions about this study, please feel free to contact me at the address provided below.

Sincerely,

James Rini
677-0507

I have read and I do understand the nature of participation in this study. I am willing to participate voluntarily, and I give James Rini right of access to my grade point averages.

Subject

Witness

Date

APPENDIX B
ACADEMIC PERFORMANCE ORIENTATION QUESTIONNAIRE

Name _____ Social Security Number _____

Date _____

Below is a list of techniques or approaches which students use to study, take tests, or complete assignments. Please read each one carefully. For each statement, decide which of the following answers best applies to you. Place the number of the answer on the line at the left of the statement. Please be as honest as you can.

1-rarely 2-occasionally 3-often 4-most of the time

- ____ 1. Go to sleep after studying.
- ____ 2. Get emotional satisfaction from good grades.
- ____ 3. Listen to music while studying or doing an assignment.
- ____ 4. Put study material on a cassette tape and listen to it at other times.
- ____ 5. Study with someone else.
- ____ 6. Attend class to absorb the presented material.
- ____ 7. Aim for less than the highest grade to reduce anxiety.
- ____ 8. Concentrate effectively.
- ____ 9. Be disciplined at balancing school work and play.
- ____ 10. Read all test questions before starting the test.
- ____ 11. Skip questions on tests then come back to them later.

- ___ 12. See tests, projects, or other assignments as a challenge.
- ___ 13. Read material out loud to improve retention and/or comprehension.
- ___ 14. Purposely block out unwanted thoughts or negative ideas.
- ___ 15. Tune out irrelevant external noises or activity.
- ___ 16. Use analogous examples to understand the material.
- ___ 17. Try to be patient with yourself when things are not flowing and come back to it later.
- ___ 18. Try to get cues from the professor for test items.
- ___ 19. Study while doing other activities.
- ___ 20. Focus on possible gains when stressed.
- ___ 21. Interpret events or situations that are school related optimistically.
- ___ 22. Go over the information again and again.
- ___ 23. Use acronyms to remember the test information.
- ___ 24. Translate material into various sensory systems, e.g., into pictures or diagrams.
- ___ 25. Psyche yourself up to get started on projects or to study for a test.
- ___ 26. Hold beliefs that generate confidence.
- ___ 27. Use mental images, such as picturing the page or recalling lectures, to access answers while taking a test.
- ___ 28. Have ideas or understandings come to you whenever, not just when you are on task.
- ___ 29. When you finish preparing for a test you do not think about it again until the test.

- ___ 30. Use good luck charms, wear a particular article of clothing or use something symbolic to inspire good performance.
- ___ 31. Trust that all you know will come to you sooner or later when taking essay tests.
- ___ 32. Stop and start many times while working on an assignment or studying for a test.
- ___ 33. Sit still and quietly while the instructor is lecturing.
- ___ 34. Feel committed and serious minded about your studies.
- ___ 35. Stay relaxed when studying or working on an assignment.
- ___ 36. Stay relaxed when taking a test.
- ___ 37. Am comfortable with and aware of having different learning speeds for different tasks.
- ___ 38. Study where the surroundings or environment is best suited for your needs.
- ___ 39. Put emphasis on preparation to make it more automatic later.
- ___ 40. Trust that an assignment will come together even though you are not sure what you are doing while you are doing it.
- ___ 41. Find a way to make studying or doing an assignment enjoyable.
- ___ 42. Use pretending tricks, such as pretending you're someone else, to learn or take tests.
- ___ 43. Input the same material to be studied in three different ways, auditorially, visually, and by writing it or through some sort movement.
- ___ 44. Trust your unconscious mind's ability to work with you academically.

- ____ 45. Leave a book, typewriter, or some sort of reminder out in full view to prompt you to study or work on an assignment.
- ____ 46. Use a system to have easy access to previously studied material.

APPENDIX C
PROGRAM EVALUATION FORM

Name: _____

Please evaluate the program you have just completed for each of the following areas. Use a scale with a range of 1=poor to 5=excellent.

	<u>Poor</u>				<u>Excellent</u>
Clarity of Content	1	2	3	4	5
Presentation of Information	1	2	3	4	5
Use of audiovisual resources	1	2	3	4	5
Workshop format	1	2	3	4	5
Impact on my thinking	1	2	3	4	5
Maintainance of my interest	1	2	3	4	5
Fulfillment of my expectations	1	2	3	4	5
Presenter's style	1	2	3	4	5

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BIOGRAPHICAL SKETCH

James Rini was born in Miami, Florida in 1956, and graduated from the University of Central Florida. He received his Bachelors Degree in psychology and his Master's Degree in guidance and counseling from the University of Central Florida. He lives in Orlando, Florida. His ten years experiences included counseling services to the central Florida community, adjunct teaching in the Counseling Program at the University of Central Florida and the program directorship of programs providing services to children and families. He is a licensed private practitioner at the Center for Human Awareness.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

Larry C. Loesch
Larry Loesch, Chair
Professor, Counselor Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

R. Myrick
Robert Myrick
Professor, Counselor Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

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Robert Blume
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

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This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Education.

May 1990

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